







HAWK OWL.

OUR BIRDS
IN
THEIR HAUNTS:

A POPULAR TREATISE ON THE BIRDS OF
EASTERN NORTH AMERICA.

BY

REV. J. HIBBERT LANGILLE, M. A.

*"How pleasant the life of a bird must be,
Flitting about in each leafy tree;
In the leafy trees, so broad and tall,
Like a green and beautiful palace hall,
With its airy chambers, light and boon,
That open to sun, and stars and moon,
That open into the bright blue sky,
And the frolicksome winds as they wander by."*

MARY HOWITT.

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TO DR. ELLIOTT COUES,

WHOSE PRINTED WORKS, PRIVATE CORRESPONDENCE

AND

GREAT PERSONAL KINDNESS,

HAVE BEEN OF INESTIMABLE VALUE TO ANY SUCCESS

POSSIBLE FOR THIS BOOK,

IT IS

GRATEFULLY AND AFFECTIONATELY

DEDICATED BY

THE AUTHOR.

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PREFACE.

THE first aim of this work is to render as popular and attractive as possible, as well as to bring within a small compass, the sum total of the bird-life of Eastern North America. I have therefore given brief descriptions, and for the most part full life histories, of all the species commonly east of the Mississippi, giving special attention to the songs and nesting, and dwelling upon the curious and fascinating, of which there is so much in the lives of these wonderful creatures. The narrative follows, in the main, the order of the seasons, and groups itself about certain interesting localities, as Niagara River and St. Clair Flats, for instance. I give a good deal of attention to migration, instinct, the analogy of nidification, the specialized forms and adaptations of structure in birds, etc., endeavoring particularly to make all this readable. Particularly do I note the many evidences of a Designing Intelligence in this department of nature. Hence the

author addresses himself especially to men of his own profession—the gospel ministry; and would earnestly urge them to become, as far as possible, the interpreters of nature as well as of the written word. Thus may they come most fully into sympathy with the Great Teacher, who pointed to the “fowls of the air” and the “lilies of the field” as the most instructive object-lessons of a practical faith. Let the pastor go with the little ones of his flock to see the nest of the Oriole in the orchard, or of the Pewee under the bridge; and he will not only go to the orchard and to the bridge, but he will find his way into the little heart. If he cannot become a naturalist, he may acquire, at least, a general intelligence of natural objects, thus finding many hours of healthful and happy recreation, furnishing his own mind with food for thought, and discovering ready avenues to other minds. In this day of almost universal thirst for natural science, the minister can ill afford to be ignorant of the natural world around him. Happy, indeed, will it be for his ministry if, instead of leaving the interpretation of nature to the ungodly and the atheistic, he may show to the people the thoughts of an infinitely wise and good Creator embodied in the universe. What is said to the preacher on this topic may apply also to the Sunday School teacher, and, indeed, should apply to the secular teacher of every grade.

The farmers of our country are, for the most part, a very intelligent class, as the writer well knows from personal intercourse with them. Many of them might, and should be, amateur naturalists. This would turn many an hour of field-labor into a recreation, and could not fail to be an important aid in the education of their families. A popular book, giving a pleasing account of the habits and characters of the birds of the garden, the orchard, the field and the forest, would be a work of frequent reference, and might afford many an hour of leisurely reading in connection with more or less observation, and thus would be a constant source of pleasure and profit.

In short, I have tried to meet a wide demand never yet met in this country—to have a book on birds for everybody. I write almost entirely from personal observation, incorporating in my work a full report for Western New York and the adjoining regions of the Great Lakes, and a pretty full report for Nova Scotia; also a good deal of direct information from Hudson's Bay, by means of an excellent correspondent. This last feature of original investigation should specially commend the work to the scientist.

I would here acknowledge the cordial aid received through correspondence with a large circle of naturalists and amateurs, whose names appear in different parts of

the work; and also the great personal kindness in the way of friendly entertainment, on the part of a large circle of friends, during many years of travel and investigation over different parts of the field under review.

The illustrations, which should add much to the character of the book, have been nearly all furnished by Dr. Coues, whose scientific nomenclature, as given in his former works, I have adopted throughout. On this subject, now so much in distress, I claim no authority; and those wishing the check-list of the Smithsonian Institution can easily procure it.

J. H. LANGILLE.

June 26th, 1884.

BUFFALO, N. Y.

CHAPTER I.

HOAR-FROST.

IT was early winter. The ground was covered with snow, but the atmosphere had been laden with a dense falling mist. The temperature falling below the freezing point, throughout the night a zephyr-like wind from the north-east continued to crystallize the moisture on every object, arraying the landscape in a most magnificent hoar-frost. The delicate plumose or spinulose ornaments increased every twig and spear of grass to many times its size. The spray of trees and shrubs seemed almost as dense as when arrayed in a young foliage; telegraph wires were as thick as cables; and the delicate array of spinulose plumes on the evergreens was of greater magnitude than their own dark covering. The exquisite delicacy and beauty of the patterns of crystallization were indescribable. The whole landscape was a charming fairy-land. The genius of a Greek mind might well have conceived that all the hosts of rural and sylvan deities had been at work; while, in this inimitable robe of snow-white purity, the Christian theist might read the thoughts of Him who is the Author of the beautiful, as well as of the true and the good.

THE HORNED LARK.

In the dead calm every object was motionless. Perfect stillness reigned. The slightest sound was awakening. What could be more pleasing to the lover of nature at such a time than the graceful flight and the musical notes of birds? Ever and anon, small, loose flocks of Horned Larks (*Eremophila alpestris*) appeared, alighting in the fields and along the highway; and they seemed as social and happy as so many Frenchmen, as they flew, and ran, and squatted, and hopped, vying with each other in their soft conversational *tseep, tseepes*.

This is one of the most characteristic birds of Western New York. In Orleans County, and westward, throughout the year, unless it be in December, there is none which one is more liable to meet. Though in much smaller flocks, it may as frequently appear in the snow-storm as the Snow Bunting, and is much more common in the finer weather of midwinter than the Goldfinch or the Lesser Redpoll. From the frozen fields or the frost-clod fence it greets us with its song already in early February, several weeks before we hear the soft warble of the Bluebird, or the resonant notes of the Song Sparrow, and so gives us the first bird-song of the year. When the earth is soaked and the air is chilled from the thaws of spring, it is as merry and chipper and full of song as ever. It is amidst the merry throngs of May, traverses the heated dust of the highway in July and August, and in the mild, hazy days of Indian summer, gives forth a respectable echo of its more vigorous song of the breeding season. Until very recently the breeding habitat of this species has been wholly consigned to the far north; but it is now well understood that it breeds abundantly in the lake counties of Western New York, and more or less to the eastward as far as Troy, raising two broods, the first being

very early. Rev. Wm. Elgin, of Rochester, N. Y., a competent observer, writes to me as follows:—"On the 28th of April, 1875, I discovered in the Park, near the lake at Buffalo, the nest of a pair of Horned Larks, containing four young birds which I took to be at least eight days old. I had observed the parent birds in that locality early in the month, and had been watching their movements ever since, being convinced from their actions, when first noticed, that they were nesting. But my search was not rewarded till the day above named. When the parent birds were first seen, the ground was bare, but about the 10th there fell several inches of snow, which lay on the ground several days, during which time the temperature frequently fell almost to zero. Under these circumstances, it seemed to me a marvel that any of the eggs hatched, since the bird must have been sitting while the ground—and in fact herself—was covered with snow. Yet the nest was admirably contrived for this weather, being placed in a small basin scooped out of the level ground, and carefully lined with fine dried grass, the top being on a level with the surface. Such a case of nidification certainly argues a marked degree of hardihood in the species. Another circumstance, which fell under my observation, would tend also to confirm this opinion. On the 7th of April, 1878, near the village of Wayne, Steuben County, I observed a female Horned Lark feeding a pair of young in the road; the young being so far matured as to be able to fly from the road to the fence, a distance of fully three rods. In this case the nest must have been begun early in March."

These instances accord with the nests reported as found near Racine, Wisconsin, while the snow was on the ground.

On the 6th of April, 1880, as I was crossing a meadow a few days after a snow-fall of some three or four inches, a

female Horned Lark flew out from under the snow near my feet. Thrusting my finger carefully through the cold covering, I touched the eggs, still warm; and picking out carefully the snow which had fallen into the nest as the bird left it, I found four eggs about half incubated. Who would not be impressed with the fidelity of this bird to her charge, thus allowing herself to be snowed over, and continuing to sit, as she no doubt would have done, till she thawed out again?

The second set of eggs is laid in June. The full fledged young are of a mottled gray color, somewhat like the first plumage of young Screech Owls. The nest is made of stubble, rootlets, and dried grasses, sometimes having a little wool or horse-hair in the lining. It is well sunken into the ground, and is generally a frail, loose and inartistic structure. The eggs, commonly four, about $.88 \times .62$, are grayish-white, thickly speckled all over with greenish-brown, having a similar under-marking of pale lilac or purplish-brown. They cannot be easily mistaken for any other eggs in this locality.

Mr. James Booth, of Drummondville, Ontario, for over thirty years a distinguished taxidermist for Niagara Falls, Buffalo, and the region round about, says that the Horned Larks did not breed here formerly; that this southern extension of their breeding habitat is a recent and noticeable change. With this corresponds the testimony of Mr. T. McIlwraith, of Hamilton, Ont.

Audubon found the nests of this species common on the moss-clad coasts of Labrador. Mr. James Fortiscue, an excellent correspondent of mine, who is chief factor of the Hudson's Bay Company at York Factory, reports it as a summer resident about Hudson's Bay, building its nest "in grass along the coast."

The species has been known to breed in Canada West, in southern Iowa, Indiana, and in the northwest generally, while one variety is known to breed in New Mexico. This latter variety is said to be smaller and brighter colored than the common type, while that of the northwest is larger and lighter in color. As one approaches the Atlantic States, the Horned Lark is irregularly migratory in large flocks; this common type being in no respect different from its European representative.

Ordinarily the Horned Lark is strictly terrestrial. When alighted it is most commonly seen resting on the ground or walking; it is a great walker, maintaining its center of gravity by a graceful, dove-like motion of the head. Seldom, if ever, is it seen in a tree, aspiring, when at rest, merely to the top rail of the fence. It has one trick, however, strangely in contrast with its ordinary lowliness, and which once greatly perplexed me. It was a sunny afternoon, late in May. Hearing its song, now quite familiar to me, I strolled warily through the open field, hoping to find its nest. But whence came the song? It was as puzzling as the voice of a ventriloquist. Now it seemed on the right, and now on the left, and now in some other direction. Presently I caught the way of the sound, and lo! its author was soaring high in air, moving in short curves up, up, singing for a few moments as it sailed with expanded wings before each flitting curve upward, till it became a mere speck in the zenith, and finally I could scarcely tell whether I saw it or not. But I still heard the song, one that never can be mistaken, so unlike is it to that of any other bird. At first one is at a loss whether to be pleased with it, and is tempted to compare it to the screaming of an ungreased wheelbarrow. "*Quit, quit, quit, you silly rig and get away,*" it seems to say: the first three or four syllables being slowly

and distinctly uttered, and the rest somewhat hurriedly run together. However, like the faces and voices of certain people, this ditty sweetens on acquaintance, and finally becomes a real source of pleasure.

But I must not be diverting. I am still looking into the deep blue, when the black speck unmistakably reappears, and gradually enlarges as the bird approaches. Down, down it comes, meteor-like, with wings almost closed, until one fears it will dash out its life on the earth. But no, it alights in safety, and steps along with all its wonted stateliness, dividing the time between its luncheon and its song. Many a time since, and sometimes as early as the last days of February, I have witnessed the same maneuver, and always with renewed pleasure. So Bayard Taylor is not mistaken after all, when, in his "Spring Pastoral," he speaks of

"Larks responding aloft to the mellow flute of the Bluebird."

And though the song of our bird can bear no comparison to the astounding song-flights of the European Skylark, their similarity of manner indicates the relationship of the two species.

In the northwest, on the prairies about the Upper Missouri and its tributaries, is the Missouri Skylark, so admirably described by Dr. Coues, and which, in its lofty flight and great powers of song, seems scarcely if at all second to the famous bird of the Old World.

The Horned Lark is 7-7.50 inches long, somewhat larger than our ordinary-sized sparrow, its shape being about as peculiar as its voice. The bill is rather long for a song-bird, quite pointed, and a little curved; on its head are two tufts of erectile black feathers, from which it receives part of its common name. As in the case of other larks, but unlike the rest of the song birds, the scales of the leg extend

around behind; and its hind claw is very long and straight. This lark is always in a squatting position, with drooping tail when at rest. With a long, black patch on each cheek, a somewhat triangular black spot on the upper part of the breast, reddish light-brown above and dull white beneath, with yellow throat, long pointed wings tipped with black, and a tail of the same color, a peculiar undulating flight often accompanied with a soft *tseep* or *tseepes*, whether sitting, walking, or flying, this bird readily appeals to the eye of the observer. It was formerly placed in the *Fringillidæ* family among the sparrows and their relatives, but now stands with a Lark family, formed by later ornithologists. In the main, it is a seed-eating species, but also subsists largely on insects.

THE LESSER REDPOLL.

On this same day of indescribably beautiful hoar-frost my garden was visited by an immense flock of birds, common throughout New England and the Middle States during winter, but resident in the more northern climes in summer. They came in a cloud, the graceful curves of their undulating flight intersecting each other at all angles, while here and there one seemed to be describing unusually long, sweeping curves amidst the dense moving mass, as if throwing out a challenge to its more moderate companions. *Cree-cree-cree-cree, shree-shree-shree-shree*, coming in soft, lisping voices from hundreds of little throats, at once swells into a grand volume of sound, which indicates that nearly all are taking part in the animated conversation. They alight indiscriminately on trees, shrubs, and weeds, and also on the ground, and begin their search for food. Taking alarm readily, they resort to the leafless tree-tops in the vicinity, or, rising high, they leave the spot. This is decidedly our most beautiful bird of the winter. About the size of a canary, 5-5.50

and 8.50 in extent, the general color of the upper parts is a rich dark brown, every feather being delicately fringed with grayish white; around the base of the bill and extending down the throat is a band of dusky black; the top of the head is bright glossy crimson; on the lower part of the back, where the feathers are so deeply fringed with white that the brown almost disappears, there is a slight touch of carmine; and in the mature male the breast and under parts, which are ordinarily white streaked with brown on the sides, are finely tinged with rose-color. How these delicate tints of rose and carmine set off the winter landscape, appearing as gay as peach-blossoms in the leafless brown of early spring. Redpoll is a member of the same family with the sparrows (the *Fringillidæ*). From its noticeable resemblance to them and its delicately-tinted breast, it is sometimes called the Rose-breasted Sparrow, but is commonly known as the Lesser Redpoll. Dr. Coues gives the habitat of the Redpoll (*Ægiothus linaria*), "From Atlantic to Pacific, ranging irregularly southward in flocks in winter, to the Middle States (sometimes a little beyond) and corresponding latitudes in the west." As to its breeding, he cites Audubon, who says that it breeds "in Maine, Nova Scotia, Newfoundland, Labrador and the fur countries." The latter also describes the eggs as from four to six in number, measuring five-eighths of an inch in length, rather more than half an inch in diameter, and pale bluish-green in color, sparingly dotted with reddish-brown toward the larger end.

Mr. C. O. Tracy, of Taftsville, Vt., says in the *Ornithologist and Oologist*, June, 1883: "The last of March, 1878, I found the nest and eggs of this species. The nest, now before me, is composed of fine, dry twigs, dried grasses, fine strips of fibrous bark, bits of twine, hair, fibrous roots, moss, dried leaves, pieces of cocoons, feathers, thistle-down,

and other material, which are neatly woven together into a compact structure and lined with hair. It was placed very loosely among the top branches of a small spruce, about six feet from the ground, and contained three fresh eggs of a very pale bluish-green color, sparingly marked with spots and splashes of different shades of brown at the larger end. Dimensions, 72×48 , 72×47 , 71×48 ."

I once saw several of these birds which Mr. Bing of Rochester had trapped and trained. One had a soft belt around his body, under his wings, to which was fastened a small chain and a bucket about as big as a thimble, with which he drew water out of a deep dish, and drank. Another had a tiny car on a platform outside the cage; and as this little vehicle was fastened to the inside of the cage by a chain and contained his food, he would draw it in whenever he wished a repast. Even after witnessing all this, I felt that, to me, the bird was but a stranger, for I had never heard its song nor seen its nest. A closely allied species or variety is found in Europe. The so-called Mealy Redpoll may be regarded as a paler variety of the common Redpoll—an Arctic race, not difficult to recognize, representing in America the true Mealy Redpoll (*A. canescens*) of Greenland. The broad, whitish fringe of the plumage, the elegant rose-white rump, and the pale, rosy breast give a peculiar delicate beauty to this variety.

THE CHICKADEE.

I have finished my morning ramble, and am fairly seated in my study, when lo! a familiar voice calls me to the window. *Chickadee-dee-dee, chick, chick, chickadee, chickadee-dee-dee-dee*; most cheerful and winning voice of a winter's day! There they are, little Black-capped Titmice or Chickadees, finding a satisfactory repast in those frosted evergreens, where my

eyes can detect nothing of the kind; standing upright, tipping forward, stretching upward, leaning to right and left, or hanging by the feet; so brimful of contentment, so sweet-spirited and confiding, with so much of the sunshine of hope in their voices, that they are a most significant reproof to querulous, unsatisfied human nature.

Those above given are far from being the only notes of the Black-capped Chickadee (*Parus atricapillus*), if they have christened him. They seem to be especially his winter song, whether he be in the door-yard, in the deep forest, or in the crowded town; and the same vocal performance can hardly be said to characterize him in summer, though it is then occasionally heard. Throughout the year, but especially in the breeding season, he has many quaint little notes, sounding very much like subdued and familiar conversation. *Tse-de-yay, tse-de-yay; tsip, tsip;* and a soft, almost indescribable, *peep, peep,* are among his common utterances in secluded parts of the deep forest. How much of the happy, inner life of these little creatures may be communicated in these soft, musical phrases! But that which pre-eminently constitutes the song of the Chickadee is a soft, elfin whistle of two notes, heard occasionally even in midwinter, but most commonly in the breeding season — *Whee-hee.* The former syllable is in the rising and the latter in the falling inflection; the whole being uttered in a soft, plaintive, tremulous, melting tone, which almost restrains one's breath while listening. It is the voice of pathetic tenderness, and makes one feel how much of conscious life may vibrate in the breast of a tiny bird.

Long years did I wait after becoming an ornithologist before I could get a glimpse of the nest of the Chickadee. On a beautiful, sunny 24th of May, in a thicket of Tona-wanda Swamp, while I was studying the song of the Black-

throated Green Warbler, a Chickadee dropped into the side of an old stump, just a few feet before me. The hole which it entered was near the top, about two feet and a half from the ground; and as the stump was mellow, it was not many minutes before I had sufficiently enlarged the passage with my jack-knife to get a good view of the inside. I have often felt the subduing influence of the familiar, trustful ways of this little bird, but never did it seem so gentle and confiding as now, peering up at me with such a mingled look of surprise and firmness, which, to say the least, was very disconcerting to an oologist. The excavation was new, and evidently made by the bird itself. The nest consisted of a loose but well-made felt of moss, fibres of bark, down and hair. For safety and softness few nests could surpass it. The seven eggs were a little smaller than those of the common Wren, some $.64 \times .51$, of a delicate, flesh-tinted white, minutely dotted with red, the marks thickening and running together at the large end. In all respects this nest is representative. The nesting of any bird, however, is subject to variation. Sometimes the Chickadee makes its own excavation in a green tree, and sometimes it appropriates the abandoned nest of the Downy Woodpecker. It feeds especially on the larvæ and eggs of insects.

About the size of a canary, some 5-5.25 long, and 7.75-8.25 in extent, its bill is short, somewhat thick, straight and strong; its head is large and its neck short, body plump and tail longish; it is deep, glossy black on the head, down the back of the neck and on the throat; cheeks pure white; upper parts dark drab, much lighter and yellowish on the rump; and of the same color, or somewhat lighter, underneath. These markings are strongly contrasted, and render the bird a conspicuous object at any time of year; but at

no time is one so forcibly impressed with the beauty, as also with the familiarity, of this gentle little creature as when meeting it in the depth of the forest on a bleak winter's day. Then the flock appear like bright and gracefully moving ornaments on the dark evergreens or leafless spray. Then this bird becomes the familiar companion of the solitary woodman, and will even venture to light on his arm and take from his hand the crumbs of his luncheon.

The Chickadee belongs to the Titmouse or *Paridæ* family, and has many near relatives, such as the Mountain Chickadee, Chestnut-back Chickadee, Long-tailed Chickadee, etc., which resemble it very closely. Our species is a bird of the Northeastern States, extending to Alaska, replaced from Maryland and Illinois southward by the Carolina Titmouse, which Mr. Maynard regards as simply a smaller variety of the same species. About the size of our Black-cap, and in all respects similiar in habit, is the Hudson's Bay Titmouse (*Parus hudsonius*). The jet black on the crown of the former is replaced by an elegant brown; the pure white on the cheeks by a grayish white; the back and sides are also tinged with brown; otherwise, their similarity in marking is close. *Hudsonius* is common to British North America, breeding as far south as Maine. I found it very common in Nova Scotia. Its strongly characterized note *cheet-a-day-day-day*, *cheet-a-day*, uttered in a rather low key, may always distinguish it.

THE PINE GROSBEEK.

As I go out through the front yard during the forenoon, I almost run my head into a flock of Pine Grosbeaks (*Pinicola enucleator*), feeding eagerly on the berries of a mountain ash. The hoar-frost falls in a cloud as a dozen or more of them shake the spray and the branches in taking their food. About 8.50 in length, this species is very robust and plump,

with a short, thick, almost hawk-like bill, and the tail slightly notched. The general color of the old male is bright crimson-red, the feathers, especially on the back,



THE PINE GROSBEEK.

showing elegant centers of dusky ash; the lores, the sides of the head and body, and the under tail coverts, ashy; two bands on the wing coverts, white; wings and tail, dusky. Female and young, ashy, variously marked or tinged with greenish yellow or light golden brown on the crown and rump, or even over the back and breast. As the male is no doubt several years in reaching his bright colors of maturity, nearly all the individuals visiting us in winter are ashy. To the naturalist and artist the old males are a great desideratum. Scarcely can the southern climes send us a more brilliant migrant than this casual visitor from the north. Immature specimens may arrive in New England and the Middle States, already in the wake of Indian Summer, but only in severe winters are they common. Then the flocks of 10-20 may contain quite a sprinkling of the

brilliant old males, and occasionally this species may extend its winter flight as far south as Maryland, Ohio, Illinois and Kansas.

As I fire into the flock in the mountain ash, they scatter into the surrounding trees, loth to fly away, and emit a loud and prolonged *peenk*, sounding almost like the note of a hawk. Its song is said to be a pleasing warble. It breeds from northern Maine and the Maritime Provinces northward, being common about Moose Factory on James' Bay, and down the Rocky Mountains into Colorado. The nest, placed in trees, is made of sticks and grasses, and contains 3-4 eggs, oval, about $.97 \times .72$, "pale bluish-green in color, spotted, dotted, and lined with brown and umber."

THE DOWNY WOODPECKER.

I was never naturally fond of a gun. But for the emergencies of natural history I should never have used much powder and shot; but I cannot, like Thoreau, become a naturalist without either gun or trap. He must have been on remarkably good terms with the inhabitants of the woods and the fields.

In the afternoon of this same day of the hoar-frost, I spied a Downy Woodpecker pounding away at a beautiful mountain ash in the front yard. Of course he would not hurt the tree, but I was tempted to get the bird; so, notwithstanding my poor marksmanship, I started with an old shot-gun to procure the specimen. As usual, the bird was very unsuspecting, and allowed me to come quite near. I fired, but, to my surprise, the bird flew to the next tree, apparently without the least surprise. I loaded and fired again, but without securing my specimen, and, it would seem, without even alarming him. Again I fired, and again and again, and yet the bird seemed as safe and self-possessed

about the yard as before the first shot. I felt assured the bird's time of departure was not yet come, and so concluded to do without it. But as I afterward became more successful with a gun, and consequently got Downy in my hand for a careful examination (and to an ornithologist a bird in the hand is worth a good many in the bush), I will give at least a brief account of him. And first I may say that, concerning all the Woodpeckers, an account of the habits of one comes very near being an account of them all.

Concerning their nests Mr. John Burroughs has well said: "The Woodpeckers all build in about the same manner, excavating the trunk or branch of a decayed tree and depositing the eggs on the fine fragments of wood at the bottom of the cavity. Though the nest is not especially an artistic work—requiring strength rather than skill—yet the eggs and the young of few other birds are so completely housed from the elements—or protected from their natural enemies, the jays, crows, hawks and owls. A tree with a natural cavity is never selected, but one which has been dead just long enough to have become soft and brittle throughout.* The bird goes in horizontally for a few inches, making a hole perfectly round and smooth and adapted to his size, then turns downward, gradually enlarging the hole, as he proceeds, to the depth of ten, fifteen, twenty inches, according to the softness of the tree and the urgency of the mother-bird to deposit her eggs. While excavating, male and female work alternately. After one has been engaged fifteen or twenty minutes, drilling and carrying out chips, it ascends to an upper limb, utters a loud call or two, when its mate soon appears, and, alighting near it on the branch, the pair chatter and caress a moment, then the fresh one enters the cavity, and the other flies away."

* Living trees of the softer kind are often eligible.

In these same cavities they continue to take lodgings by night, or take refuge in bad weather, thus making these, as well as natural cavities in trees and stubs, places of convenient shelter.

The strongly characterized eggs of the Woodpeckers, with smooth, glossy, translucent shell, and of the purest white, are very gems in oölogy. Are they white in order that the bird may readily see them as it enters its dusky chamber? What a Spartan-like bed are those few chips on which the young are reared! Indeed, everything about the Woodpecker indicates hardihood and industry. He is a moral object-lesson to the self-indulgent and indolent.

As Wilson has truly suggested—having no vocal power to charm—the Woodpeckers occupy the honorable position of carpenters among the birds.* For this purpose their structure is most admirably adapted. Held in position by means of large, strong feet, having two toes turned forward and two backward, and by a tail having every feather stiff and pointed; with a strong, chisel-shaped bill, skull-bones of unusual size and strength, and a neck which works like a lever, they can do marvelous execution. The tongue—elastic, barbed, viscid, and the back part or hyoid bone being coiled up like the mainspring of a watch, and in every way adapted to the seizure of insects—was well chosen by Paley as a striking evidence of design in creation. And the ornithologist, observing how the bird chooses the dead trees and those dying from the destructive effect of insects as the objects of its workmanship, will readily confirm, from the study of habit, what the anatomist infers from structure.

Closing the wings and gliding through the air after several vigorous strokes, the flight of the Woodpeckers is undulating; and, just before lighting, they glide upwards a few

* *Carpentero* is the ordinary name of the Woodpecker among the Mexicans.

feet to check their direct momentum. Clinging to the bark of the trunk or larger limbs of the trees with their sharp, hooked claws, and using the peculiar feathers of the tail as a support, they hop upward or sidewise, or drop backward, but do not move with the head downward, after the manner of the Nuthatches. They often take insects on the wing, and relish the smaller fruits; but their principal fare consists of insects and their eggs and larvæ as found in the bark or crevices, or as excavated and drawn out from decaying or damaged trees.

Now, from the general to the particular. The Downy Woodpecker (*Picus pubescens*), 6.75 and 12.00 in extent, is the dwarf of his family, and, in color and marking, is almost precisely like his nearest relative, the Hairy Woodpecker. His small size alone may distinguish him from all other Woodpeckers in this locality. The top of the head, the cheeks, the back of the neck, both sides of the back, the wings and central feathers of the tail are jet black. A stripe running back over each eye, and one extending back from under each eye and up the sides of the neck, the middle of the back, regular transverse rows of round spots in the wings, and three feathers on each side of the tail are white, the latter being spotted with black. The under parts are of a grayish white, and the male is marked with carmine on the sides of the hind head. Like those of all the rest of the family, the eggs of this little species, some $85 \times .62$, are pure white. As is common with Woodpeckers, both sexes take part in incubation. The Downy Woodpecker is particularly fond of orchards and such arboreal accommodations as may be found in the vicinity of the abode of man. Its note, *chick, chick*, is cheerful, and suggestive of contentment and self-satisfaction, and, like the notes of the Woodpeckers in general, expresses a vigorous energy. It is resident

throughout Eastern North America, and northwestward to Alaska, being represented west of the Rocky Mountains by Gairdner's Woodpecker.

CHAPTER II.

SNOWED IN.

WHAT is more romantic, in this our northern clime than a heavy snow-storm? What wonder that one of our most distinguished American poets could elaborate a charming poem under the title, "Snow-bound." What can be more suggestive of purity, more symbolic of a clean sheet on which to begin a new chapter in life, than the mantle of snow which shrouds the landscape about the beginning of our solar year?

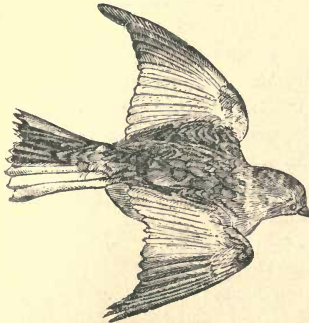
"No cloud above, no earth below—
A universe of sky and snow."

Then the snow-flakes! What wonders of beauty they are! Unity in variety is the law of their forms of delicate beauty. Always star-like, with just six rays or main points, they seem to include every variety of detail on this plan, from the perfectly plain six-rayed star to the most elaborate plumose flower conceivable. Every mineral having its invariable angle of crystallization—and snow and ice belong to the mineral kingdom—water, in consolidating, shoots forth its angles at precisely 60° —a fact which the merest fragment of a snow-flake will reveal. It is only under certain circumstances that they can be seen to advantage. If they pass through a stratum of air too mild to keep them below the freezing point, they blend, and appear like pellets of white lint; if there is much wind, they are broken into

fine particles. When they fall rightly, examine them on your coat-sleeve under a magnifying glass, and you will find them to be among the most perfect of nature's marvelous workmanship.

THE SNOW BUNTING.

A cold, gray, midwinter day had been followed by a quiet snow-fall of many inches, which, perfectly undisturbed, lay in a huge, evenly-distributed pile over the entire landscape.



THE SNOW BUNTING.

From the dried mullein-stalk, standing in the fence-corner, to the heavy forest, the form of every object was changed, was rendered fantastic and ghost-like, in this universal shroud of pure white. Now the flakes were unusually large and elaborate; for, be it remembered, nearly every snow-storm affords a new pattern of the flake. On the bright morning which followed, while the whole earth gave back the grateful rays of the sun in countless tiny stars of dazzling scintillation, I was just in the act of dipping up a handful of the fleecy snow in absorbing admiration, when lo! an immense cloud, nearly as white as the snow itself,

swept over my head, and dropped down into a field a few rods beyond. But this cloud of Snow-flakes—for so the Snow Buntings are sometimes called—was musical, filling the air with a soft warbling chipper as they flew, and keeping up the same notes after they had alighted. How their predominance of white harmonizes with the snow on which they hop and skip and flutter! while the patches and mottlings of yellowish ocher and black, so varied in size and form in different individuals, remind one of the autumnal earth-colors just beneath the whitened landscape. They seem to take delight in the snow and in the cold. Indeed, this hardy, happy little bird is the true herald of snow, seeming to keep ever on the line, or a little in advance, of the snow-storm, and generally in large flocks. As the winter is setting in, one may stand on the south of our great Lake Ontario and see them coming across by the thousand, their rear outline being skirted by the various smaller Hawks, moving southward at the same time, and foraging as they go.

Their sprightly movement when on the ground, the zest with which they feed on the seeds of weeds and grasses, cannot but give one the impression of good cheer and plenty on the most inclement winter's day. Impressed with the utility of even the weeds, in the nice adjustment of the economy of nature, and with the confident air of these birds seeking their daily food, one cannot but recall the words of the Great Teacher: "Behold the fowls of the air; for they sow not, neither do they reap, nor gather into barns; yet your Heavenly Father feedeth them."

The birds are not idle, indeed. They accomplish a great mission. A single year without their labors would be followed by a degree of disaster inconceivable, perhaps by a famine. We learn "that in the early times of the American

colonies the farmers of New England offered threepence a head for the Crow Blackbirds, on account of their destructiveness in the grain fields. Consequently they were nearly extirpated for a time, and the insects increased to such a degree as to cause a total loss of herbage, and the farmers were compelled to obtain hay from Pennsylvania, and even from Great Britain." But the birds can do nothing whatever to provide their own food. Yet when are they seen starving or wanting sustenance?

The cloud of Snow-flakes, having taken sudden alarm, are risen high in air. What graceful gyrations and evolutions! and how the pure white of their under parts fairly gleams against the clear ether. Must not that soft, musical chatter be an intelligible conversation among themselves? Never did minds communicate in happier tones.

The nest of this bird was once found in New Hampshire, on a slope of the White Mountains, "on the ground among low bushes, and formed like that of the Song Sparrow." It contained young. Another is reported, even from Springfield, Massachusetts. The ordinary breeding place of the Snow Bunting, however, is in the Arctic regions, where it is said to spend the summer in great numbers. It now becomes a bird of accomplished song, building a substantial nest on the ground and in the clefts of rock, lined with feathers and the hair of the Arctic fox. The eggs, .90 x .65, are whitish, mottled with brown, especially around the larger end, where the blotches sometimes become a dark wreath. The species is common to the higher latitudes of the whole northern hemisphere.

THE LAPLAND LONGSPUR.

In Western New York, the sunshine of early winter is very fickle. In a few hours the clearest sky may be robbed

in the dark-leaden clouds so peculiar to that season; and when, perchance, the sun breaks through, they may be fringed with a rich amber, quite uncommon at other seasons of the year. On this morning after the snow-fall, the sunshine left almost as suddenly as the Snow Buntings, and with the leaden clouds appeared another flock, equally large, and so similar in size, form and movement that one might readily think them the same were it not for the predominance of the dark colors. They are as dark as the sparrows; the black and ocher, so common to the Snow Buntings, making up the entire dress, except the white underneath and on the sides of the neck; while the breast, cheeks and sides under the wings are ornamented with rich, black feathers, delicately tipped with white. Thus the careful observer will readily distinguish them as the Lapland Longspurs (*Plectrophanes lapponicus*), and quite different from the Snow Buntings (*Plectrophanes nivalis*), of the white dress, dark-ocher patch on the head lighter patches of the same on the ears, as also a tendency of the same, in the form of a collar low on the breast, black mixed with the same on the back, black in the center of the tail, upper wing-feathers and wing-tips.

The Lapland Longspur spends the breeding season in large numbers about Great Slave Lake, McKenzie's River, and in Alaska, arriving in the latter place the second week in May. At this time of year it is said to be an eminent songster. Dr. Coues describes the nidification as follows: "The eggs are rather pointed at the smaller end, and measure about 0.80×0.62 . They are very dark colored, reminding one of the Titlark's; the color is a heavy clouding or thick mottling of chocolate-brown, through which the greenish-gray ground is little apparent. The nests are built of mosses and fine, soft, dried grasses, and lined with

a few large feathers from some water-fowl; they were placed on the ground, under tussocks, in grassy hummocks. The female did not leave the nest until nearly trodden upon."

Like the former, this bird occupies the Arctic regions of both continents, migrating southward in winter, even to warm-temperate latitudes, though the Longspur is not common even then in this locality, and is not yet reported west of the Rocky Mountains.

THE HAIRY WOODPECKER.

"*Pimp! pimp! pimp!*" with a sharp, metallic ring. Who does not know the voice of the Hairy Woodpecker?—similar, somewhat, and yet very unlike that of other members of the family. Its vigorous and incisive tones are associated with the sounds of my childhood. Well do I remember its nest, commonly chiseled out of the American aspen, so soft and brittle, the nest being made in a large, living tree, and many feet from the ground. What gems were the ovate, smooth eggs, some $.98 \times .72$, of translucent white; and how hard it seemed for the tender, unfledged young to lie on a mere bed of chips! Certain it is, however, that what may be lacking in luxury is made up in safety. What Blue Jay, Crow, Hawk or Owl would think of putting its head into that small, neat, round doorway? Even a Raccoon would fare no better than Reynard, when the fabled Stork invited him to dinner; and what snake would think of wriggling up that straight and limbless trunk, some thirty feet or upwards? The male, moreover, is a very hero in defense of its nest, flying angrily from tree to tree in the immediate vicinity when it is disturbed, and uttering an almost deafening racket of rage.

The Hairy Woodpecker (*Picus villosus*) is 8.50–9.00 in length, plumage soft and blended on the back, appearing

more like hair than feathers; head, back of the neck, sides of the back, wings and central tail-feathers, black; stripe above and below the eye, the lower extending up the side of the neck, stripe down the middle of the back, side feathers of the tail, under parts and round spots in rows across the wings, white; the male having two bright red spots in the white stripes on the back of the head. Habitat, all eastern North America, reaching through Alaska, northwest; replaced by a variety called Harris' Woodpecker, beyond the Rocky Mountains.

THE SHORT-EARED OWL.

It is the dusk of twilight. How strong is the contrast between the snow-clad earth and the leaden, almost inky, sky! What bird is that flying low by the barn-yard fence? It has alighted. Quickly as possible I get my shot-gun and creep around behind the barn. Meanwhile, a second has alighted by the side of the first. Probably they are male and female. I take aim, and over topples one of the birds, while the other spreads its noiseless wings and flies away.

On picking up my specimen I find it to be the Short-eared Owl (*Brachyotus palustris*). *Palustris* means pertaining to the swamp or marsh, and is very properly applied to this species, as we shall presently see. From fourteen to fifteen inches long, light reddish brown, lighter beneath, upper parts thickly streaked with blackish-brown, lower parts more finely streaked with the same, face whitish, with black circles around the eyes, tail buff, legs a lighter shade of the same color, ear-tufts scarcely noticeable, this bird is very readily identified, for it is quite unlike any other Owl of this locality.

The Short-eared Owl breeds commonly in the salt-marshes along the Atlantic and in marshy places in the interior,

making its nest on the ground, sometimes of very slight construction, laying some four or five roundish dull-white eggs, 1.50×1.30 . Professor W. D. Scott, of Princeton, found it around the inlet of Barnagat Bay, as a sort of counterpart of the Marsh Hawk, scouring the marshes by night, while the latter took its place in day-time, also breeding in the same locality and on the ground. According to Dall, the Short-eared Owl sometimes breeds in burrows. It seems to be common to Europe, Asia, Greenland, America and the West Indies.

Sometimes found in the woods, but generally adhering to swamps and marshes, this species is wont to rest on the ground during the day, and if startled flies up in a hurried and "zigzag" manner, "as if suddenly awakened from sound sleep," and sailing along rather low, drops down out of sight again. Mr. W. Brewster found these Owls preying upon the Terns on Muskegat Island. "A small colony of these birds had established itself upon a certain elevated part of the island, spending the day in a tract of densely-matted grass. Scattered about in this retreat were the remains of at least a hundred Terns that they had killed and eaten. Many of these were fresh, while others were in every stage of decomposition, or dried by the sun and wind. In each case the breast had been picked clean, but in no instance was any other portion disturbed. Every day, at a certain time, these Owls sallied forth in search of fresh prey. We used regularly to see them about sunset, sailing in circles over the island or beating along the crests of the sand-hills. They were invariably followed by vast mobs of enraged Terns, which dived angrily down over the spot where the Owl had alighted, or strung out in the wake of its flight like the tail of a comet. The Owl commonly paid little attention to this unbidden following, and apparently

never tried to seize its persecutors while on the wing, but on several occasions we saw a sitting bird pounced upon and borne off. Sometimes in the middle of the night a great outcry among the Terns told when a tragedy was being enacted."

Like the rest of the Owls, the Short-ear is for the most part a bird of the night; and it feeds especially on mice and moles.

THE LONG-EARED OWL

(*Otus vulgaris* var. *wilsonianus*) is a common resident in the swamps and dense evergreen woods, but is nowhere abundant in Western New York. About the size of the former, it is readily distinguishable by its long ear-like tufts of 8-12 feathers, situated on the top of the head like the ears of a cat, and by its darker color; dark brown, mixed with fulvous and finely specked with white, above; white, lined and crossed with light-brown, below; facial disks and feet, fulvous; narrow ring around the eye, black. This variety of the European species (*vulgaris*) is of rather southern habitat, stretching across the continent, and, perhaps, barely extending into New England. It breeds abundantly in Eastern Pennsylvania, its nest, placed in trees or possibly on the ground, being "usually constructed of rude sticks, sometimes of boughs with the leaves adherent thereto, externally, and generally, but not always, lined with the feathers of birds." The same nest is used for a succession of years, and it is the testimony of both Wilson and Audubon, as also of Buffon, in respect to the European variety, that the deserted nests of other birds are appropriated and repaired. The eggs, commonly four, about 1.50×1.35 , are roundish and white, after the manner of Owls. In common with its class, the food of this species is small birds and reptiles and insects.

THE SCREECH OWL.

After a few days the weather grew intensely cold, the thermometer running ten degrees below zero. Making a professional visit on one of these bitter days, as I drove



THE SCREECH OWL.

into the barn-yard to unharness my horse, I noticed the result of quite a little tragedy in the animal kingdom. Some fifteen feet up the side of the barn hung a Screech Owl (*Scops asio*), caught by one foot under a large batten partly sprung off from the building. It was frozen stiff, its eyes standing out white and ghastly with the expansion of the frost; and just above it, seemingly caught under the same batten, and frozen in like manner, was a common

mouse; thus both had been turned into ice in the very act of the chase.

This bird is abundant here throughout the year, but is more noticeable in winter, as it then approaches the barn and the out-buildings, probably in search of food and shelter. In late summer and early autumn it may be heard about the orchard or the edge of the wood; in the evening, uttering a soft whinny, not at all to be compared, however, to "*screeching*." Thoreau, describing the sounds within hearing of his hut at Walden Lake, gives special prominence to the vocal performance of this bird. He says: "It is no honest and blunt *tu-whit, tu-who* of the poets, but, without jesting, a most solemn, graveyard ditty, the mutual consolations of suicide lovers remembering the pangs and the delights of supernal love in the infernal groves. Yet I love to hear their wailing, their doleful responses, trilled along the road-side, reminding me sometimes of music and singing birds; as if it were the dark and tearful side of music, the regrets and sighs that would feign be sung. They are the spirits, the low spirits and melancholy forebodings of fallen souls that once in human shape night-walked the earth and did the deeds of darkness, now expiating their sins with their wailing hymns or threnodies in the scenery of their transgressions. They give me a new sense of the variety and capacity of that nature which is our common dwelling. *Oh-o-o-o-o that I never had been bor-r-r-r-n!* sighs one on this side of the pond, and circles with the restlessness of despair to some new perch on the gray oaks. Then—*that I never had been bor-r-r-r-n!* echoes another on the further side with tremulous sincerity, and *bor-r-r-r-n!* comes faintly from far in Lincoln woods."

About nine inches long, with large ear-tufts, ash-gray above, with a lighter shade of the same beneath, all

over mottled and streaked with black, the black streaks beneath again crossed with black and accompanied with reddish tints, white markings on the shoulders—sometimes the general ash-gray above mentioned being entirely replaced by reddish; this bird can never be mistaken. H. D. Minot says: "The eggs are laid in the hollow of a tree, an apple-tree being frequently selected, in which are often placed a few simple materials, such as leaves or dried grass. The eggs, of which four are laid about the middle of April, average 1.35×1.20 of an inch, though occasionally specimens measure 1.50×1.30 of an inch. They are white, and nearly spherical." The almost round, white eggs, generally pure white and about equal at both ends, and with a fine surface, are characteristic of the Owls.

Mr. W. Perham (at Tyngsboro, Mass.) often secures the nest of this species by fastening on trees in the woods "sections of hollow trunks, boarded up at the open ends, with entrance-holes cut in the sides," the bird appropriating these instead of natural cavities or deserted Woodpeckers' nests, "both as roosting and nesting places."

As with the Owls in general, this species, when in the down, is pure white. Being very small, excepting the bill and feet, it might be mistaken for a little white Bantam Chicken. A pretty sight, indeed, is this snow-white brood of little creatures, in a hole of some old apple-tree, in the thick, shadowy part of the orchard, or in some partially decayed tree in the edge of a dense woods.

On one of the last days of May (1880), I was surprised, while passing through the woods, by something which seemed to me at first sight a large bunch of gray wool on a limb some fifteen feet from the ground, but which, on closer examination, proved to be four young Screech Owls, nearly full-grown, well fledged, and sitting so closely to-

gether, and so perfectly still, as to require quite an effort to define them to the eye. They were a weird sight. The plumage was soft and downy, the color cold gray, thus refuting the theory that the red garb, in which this bird is often found, is the immature dress. The same species seems to be sometimes red, and sometimes gray, independent of age or sex.

In the latter part of June, the same year, on entering the woods at late twilight, a bird flew at my head, uttering a hoarse, guttural scream, followed by a sharp snapping of the bill. It proved to be a Screech Owl, probably a parent bird, with young near by.

Including a number of varieties, this Owl inhabits North America at large.

THE ACADIAN OWL.

The Acadian Owl (*Nyctale acadica*) or Saw-whet, as it is sometimes called, from its peculiar, rasping note, sounding like the filing of a saw, is not infrequently found here; but is, apparently, not nearly so common as *Scops asio*. It must breed here, as it is resident, and I have seen the young taken in Orleans County. The male of this pigmy of its race averages some 7.25, length; some 19.50 in extent. The female is about an inch longer, and every way larger in proportion. With head proportionately large, round, untufted, and facial disks complete, the *adult* is fine, clear brown above, scapulars and wing coverts marked with white, and an under-surface ring of the same around the back of the head; outside and inside web of primaries, and inside web of the secondaries, white-spotted; tail tipped with white, and having several cross-lines of spots of same; space around the bill generally, and above and below the eye, white or yellowish-white; top of the head, auriculars and sides of neck streaked with white; and clear white arcs

back of the ears; under parts white, broadly streaked with reddish-brown. *Young*, more generally dark brown, unspotted, with clear white forehead and eye-brows, and clear, light reddish-brown under parts. Slyly nesting in the hole of a tree, the nearly round, pure white eggs of this species are $1.22 \times .96$. They are laid in April, and the newly-hatched young are covered with a reddish down. This pigmy must have a good appetite, for, not long since, an individual was taken in N. J., the stomach of which "contained a whole Flying-squirrel." Habitat, North America; most common, perhaps, in the latitudes of New England and Nova Scotia.

THE WAX-WING.

What a beautiful figure in the winter landscape is that mountain ash in the front yard!—only it is no ash at all,



THE WAX-WING.

but a member of the Rose family. Symmetrical and graceful, its dark-brown colored spray, beautifully relieved by the

great scarlet clusters of persistent fruit, it is a constant source of pleasure to the eye. But oh! see it now! fairly bending under the weight of an immense flock of Wax-wings (*Ampelis garrulus*). The whole tree-top seems alive with their fluttering motion, as they keep up a soft but spirited chipper, half-way between a whisper and a whistle, and gobble up the berries with the gusto of extreme hunger. How beautiful they are! The form is fine, and it has an elegant crest; general color, a brownish drab, approaching ash-gray over the back, and chestnut around the base of the lofty crest, and around the margin of the deep black passing horizontally across the forehead across and above the eyes and forming a large patch on the throat; under tail coverts chestnut; wings and tail blackish, the latter shading most beautifully into dark ash toward the base; streak at the base of the lower mandible and one under the eye; tips of primary wing coverts and outer terminal web of the secondaries, white; the latter with waxen appendages on the quills; the primaries and the tail tipped with bright yellow, the former sometimes edged across the end with white. It is 7-8 inches long. The size and form of this species, its elegant shading of rich colors, and its bright and sharply-contrasted markings fairly entitle it to its European epithet, "The Lovely Wax-wing!" This is an Arctic bird, both of the Old World and the New, and appears here irregularly in flocks in winter, sometimes moving southward to 35°. Its nest and eggs, a few of which have been found in the northern part of this continent, are very similar to those of its near relative, the Cedar Bird, only a little larger.

THE PINE LINNET.

One of these cold days, as I was riding by a pasture well stocked with the remains of the thistle and golden-rod of

the previous summer, I shot a solitary bird on a thistle, which, in movement and appearance, reminded me of the Goldfinch. It proved, however, to be its near relative, the Pine Linnet (*Chrysomitris pinus*), the first of the kind I had ever identified. Like many birds, appearing plain in the distance, on a close examination it is found to be a thing of delicate beauty. The size and form of the Goldfinch, it differs much from it in color. About 4.75 inches long, above it is narrowly streaked with black or dusky and yellowish flaxen, beneath with dusky and yellowish white; the rump yellowish; the bases of the black or dusky wing and tail feathers, bright, sulphury yellow, the same feathers being narrowly edged externally with yellowish; the yellow at the bases of wing and tail feathers being especially noticeable in flight.

This bird ranges generally in flocks, and more or less irregularly throughout the United States in winter, and, as far as yet known, breeds from the latitude of Maine northward. It is sometimes in Western New York already in flocks by the 4th of July.

Dr. C. Hart Merriam, of Locust Grove, Lewis County, New York, writes concerning this species: "Few birds are more erratic in their habits than the Siskin or Pine Linnet. Occurring to-day, perhaps, in such numbers that one soon tires of shooting them, they are gone on the morrow, and years may elapse before one is seen again." Concerning 1878, he continues: "During the past winter and spring they literally swarmed in Lewis County, New York, and thousands of them bred throughout the heavy evergreen forests east of Black River, while many scattered pairs nested in suitable hemlock and balsam swamps in the middle districts." Again he says of this region, and of Big Otter Lake in Herkimer County: "Never before at any locality have I seen a species of bird represented by such

immense numbers of individuals as here attested the abundance of the Pine Finch. In every part of the forest, from early morning till after the sun had disappeared in the west, there was not a moment that their voices were not heard among the pines and spruce trees overhead." Already in April the young were found nearly fledged, and eggs were taken as early as the 18th of March. Dr. M. reports the nest as "a very bulky structure for so small a bird, and its rough exterior, loosely built of hemlock twigs, with a few sprigs of pigeon moss (*polytrichum*) interspersed, is irregular in outline, and measures about six inches in diameter. The interior, on the contrary, is compactly woven into a sort of felt, the chief ingredients of which are thistle-down and the fur and hair of various mammals."

In spring it is said to sing very much like the Goldfinch, but in lower tones and more softly. Its conversational chipper is also very similar to that of its near relative. Its nest, said by Dr. Brewer to be "neat," made of "pine twigs" and "lined with hair;" contains pale-greenish eggs speckled with rusty, about $.70 \times .50$.

In flight, manner of alighting, and movements in obtaining food, this species very closely resembles the Goldfinch. In addition to the seeds of the thistle and those of the weeds in general, it appropriates as food the seeds obtained from the cones of the Pine family, climbing actively in the tops of the evergreens.

THE TREE SPARROW.

The same day I crept on a large flock of birds in a corn field. They proved to be Tree Sparrows (*Spizella monticola*), readily distinguished from others of the same family by their dark chestnut crown, and dark spot on a plain, ash-colored breast; the white cross-bars on the wing coverts also are generally quite conspicuous.

Reaching us in October, this is one of our most abundant winter birds, generally in large flocks, extending nearly to the Gulf States, and returning northward in April and early in May. It "breeds north of the United States, to high latitudes, but also, like the Snow-bird, in mountains within our limits." (Coues.) Its eggs are said to be much like those of the Song Sparrow, and its nest indifferently on the ground, in a bush, or in a tree.

So gentle and unsuspecting is this bird, that it will even pick up the crumbs around the door in winter, though it generally affects the field, the pasture, the thicket, or the orchard; and it seems to sing almost throughout the year. In the latter part of March, or during the month of April, when the Song Sparrow is giving us his earliest and most ringing notes, from the thickets and from the ground you may hear the soft, sweet notes of this species, as a sort of undertoned accompaniment—*Wheè-hè-hò-hè-whec-he-he-he-hè*; the first four notes drawn out, and the rest uttered somewhat rapidly. In mild days of November whole flocks may be heard warbling almost as sweetly as in spring, and in the midst of the cold of winter, their notes are often much more like a warble than a mere twitter, a whole flock becoming thoroughly musical. In the soft sweetness of its song, its general habit and migration, it is very much like the Dark Snow-bird, and, like it, is not common west of the Rocky Mountains.

THE GOLDFINCH.

We have had several sunny days, and our heavy fall of snow has settled to a stratum of six or eight inches. I am leisurely strolling through a thicket, on a bright afternoon, on the sunny side of a large woods. I find Chickadees, in familiar little parties, happy as the sunshine. A small flock of Tree Sparrows has also flown overhead, and lighted in

a pasture near by. But the most numerous and spirited company I meet is a party of Goldfinches (*Chrysomitris tristis*). After caroling and whirling, high in air, they have alighted within a short gun-shot. Excepting the Wrens, this is decidedly the most animated bird of my acquaintance. Every particle of his being seems inspirited with life. A rare thing, indeed, it is to catch him in a state of rest. When taking food, he seems to go through all the motions possible, now reaching upward, now downward, now sideways, and now hanging by the feet. In flight he takes long, bounding curves, showing an elasticity of stroke altogether uncommon; and to make that flight still more animated, frequently utters his strongly emphasized ditty—"I've cheated ye, I've cheated ye." On lighting in a tree, he is in a perfect state of excitement, beckoning, chattering and calling, as if seeking to attract universal attention, giving one the impression that there is a host of other birds within hailing distance. Indeed, he never seems alone. When he sings, he seems so brimful of his song, and in such haste to deliver it, that he cannot articulate distinctly, but runs one note into another, and breaks others off so abruptly that, notwithstanding its pleasing vivacity, it often appears quite incomplete. Not infrequently a considerable flock will all sing at once, thus making a noisy chorus. In the case of birds, as in the case of men, we should not confound song with conversation. In respect to the latter, the Goldfinch has a great variety of notes, which it is about impossible to describe in full. *Tid-tid-di-dié, tse-heé-tseé, tee-heé*, in addition to his familiar ditty when in flight, are sounds quite common to him. Whether we contemplate him in voice or in action, the sentiment ever expressed by him is that of joy, so that he is properly spoken of as the happy Goldfinch. This is particularly a seed-eater, and, like the rest of

his family, the *Fringillidæ*, which includes the Sparrows and their relatives, he has a short, thick bill, with which to shell the seeds. In common with the rest of our winter birds, he does no small service in keeping down the weeds. In placing the Goldfinch on the thistle, Audubon rendered his portrait true to nature. He is found there more frequently than on any other plant. How often we see him leading out his young family to dine on the seeds of this very common and troublesome weed! Hence he is sometimes called the Thistle-bird. This natural inclination to aid the farmer in his struggle with noxious plants should especially commend our sprightly little friend, as well as his whole family connection, to the kindly consideration of the farmer. Besides, do not the trim form, bright colors, graceful and spirited movements, and cheerful, happy voice of this species, contribute constantly to the innocent pleasures of the out-door laborer? Is he not the true messenger of a boundless joy for man as well as for the birds?

The winter dress of our bird has nothing attractive. Audubon has described it well and in few words: "Brownish-olive above, without black on the head; foreneck and breast grayish-yellow, the rest of the lower parts grayish-white." But this is not the color of the female in summer. Lacking the bright lemon-yellow, black crown, black wings and tail marked with white, which constitute the vernal habit of the male—in her plain suit of green, with dusky wings and tail, and shading into yellow underneath—she is truly beautiful, as she flits by the side of her gay consort. Have you ever seen the two take each other by the bill and delicately caress each other under the brow of some hill on a beautiful spring day?

In its time of nesting this bird is quite unaccountable. Though the male has put on his gay attire, long before the

spring is robed in splendor, and has chosen his mate quite as soon as other birds, not until July is there the slightest indication of domestic cares. Then you no longer see them in large, noisy parties, but each couple has found a quiet nook, and become as steady as any other pair of birds. Quite commonly the site chosen is in the orchard, sometimes in the top of a tall shade-tree which stretches its boughs over the house-roof, often in the thicket which borders the forest, and not infrequently in a cosy clump of elders. In the latter kind of place, late in July, was found a very gem of a nest, now before me. True to the favorite plant, it is mostly composed of thistle-down, interlaced and wound into position by fine shreds of the bark of the grape-vine and bass-woods, all of which materials give it a somewhat bulky, but neat, gray appearance, beautifully in harmony with the branch on which it is saddled. This nest is finished alike within and without, and even on the under side. It is not merely built *on* the limb, but neatly finished *around* it. Evidently it was not constructed in a hurry. The bottom, sides, and rim are thick, and firm, and finely felted together. The inside is an elegant bed of white, silky down. In every respect it is perfect. But oh, the eggs! What gems they are! Some half-dozen, the size of a Wren's egg, .65 × .51, clear white, tinged with green, they render the nest perfect in beauty. Many a time has the sight of it thrilled me with pleasure, and never more than to-night, as I review all its beauties for an accurate description, and recall the many kindnesses of the dear friend who complimented my tastes in saving it for me.

Like some others of the smaller birds, the Goldfinch sits only about a week.

It ranges through North America generally, breeding as far south as Kentucky.

THE RUFFED GROUSE.

One of my townsmen has just brought a pair of beautiful Ruffed Grouse (*Bonasa umbella*), male and female, and wishes them mounted. He has described the attitudes he prefers; the male, "as if he was just goin' to fly," and the female, "as if she was harkin'." I will try to comply with the request. These birds remind me of an incident of a few years ago. One of my most esteemed parishioners, on going out into his door-yard at break of day, early in November, found a beautiful male of the Ruffed Grouse promenading about like a domestic fowl. On attempting to fly over the barn it struck the ridge of the roof and fell dead on the other side. He brought it to me, and, on dissection, its breast proved to be completely bruised. In more superstitious times this might have been regarded as an evil omen, for a few months afterwards this same man was instantaneously killed.

These birds before me are specially characteristic of Eastern North America, and have a history, which cannot fail to interest the lover of nature. The man who procured them might well be impressed with their movements and attitudes, for they are every way marked and pleasing.

"On the ground," says Audubon, "where the Ruffed Grouse spends a large portion of its time, its motions are peculiarly graceful. It walks with an elevated, firm step, opening its beautiful tail gently and with a well-marked jet, holding erect its head, the feathers of which are frequently raised, as are the velvety tufts of its neck. It poises its body on one foot for several seconds at a time, and utters a soft *cluck*, which in itself implies a degree of confidence in the bird that its *tout ensemble* is deserving of the notice of any bystander. Should the bird discover that it is observed, its step immediately changes to a rapid run, its head is

lowered, its tail is more widely spread, and, if no convenient hiding place is at hand, it immediately takes flight with as much of the whirring sound as it can produce, as if to prove to the observer that, when on the wing, it cares as little about him as the deer pretends to do when, on being started by the hound, he makes several lofty bounds, and erects his tail to the breeze."

Who that lives in his vicinity has not heard the "drumming" of the male in the breeding season? Although it is quite possible that he may not have seen the bird in the act, for that is the privilege of but few. Mr. John Burroughs says: "The male bird selects, not as you would predict, a dry and resinous log, but a decayed and crumbling one, seeming to give the preference to old oak logs that are partially blended with the soil. If a log to his taste cannot be found, he sets up his altar on a rock, which becomes resonant beneath his fervent blows. Who has seen the Partridge drum? It is the next thing to catching a weasel asleep, though by much caution and tact it may be done. He does not hug the log, but stands very erect, expands his ruff, gives two introductory blows, pauses half a second, and then resumes, striking faster and faster, till the sound becomes a continuous unbroken whir, the whole lasting less than half a minute. The tips of his wings barely brush the log, so that the sound is produced rather by the force of the blows upon the air and upon his own body as in flying. One log will be used for many years, though not by the same drummer. It seems to be a sort of temple, and held in great respect. The bird always approaches on foot, and leaves it in the same quiet manner, unless rudely disturbed. He is very cunning, though his wit is not profound. It is difficult to approach him by stealth; you try many times before succeeding; but seem to pass by him in a great hurry, making

all the noise possible, and with plumage furled he stands as immovable as a knot, allowing you a good view and a good shot, if you are a sportsman." Audubon says: "The female, which never drums, flies directly to the place where the male is thus engaged, and, on approaching him, opens her wings before him, balances her body to the right and left, and then receives his caresses."

Whether the drumming is produced by striking the wings against the body, by striking the wings together behind the back, or by simply beating the air, has been a much debated question. Probably the latter is the true explanation. Nor is it merely the call of the male to the female in the breeding season, since it is indulged in at other times of the year, but is also, as Nuttall has said, "an instinctive expression of hilarity and vigor."

Behold the male strutting before the female in time of courtship! The first time I saw him in this act I was utterly at a loss to identify him. The ruff about the neck is perfectly erect, so that the head is almost disguised; the wings are partially opened, and droop gracefully; the feathers generally are elevated; the tail, with its rich, black band, is spread to the utmost and thrown forward. Thus he stands nearly motionless, a genuine object of beauty

The flight of the Partridge is straight forward, vigorous and heavy for about half the distance, after which it simply sails, and that most gracefully, almost ethereally, to the place of lighting. Thus the last part of its flight is strikingly in contrast with the first. The whirring strokes of the Partridge when put up is not, in all probability, its ordinary mode of flight, but only the result of its surprise. The best of observers affirm that, when rising of its own accord, its flight is as noiseless as that of other birds. Its habit of shooting for some distance through the loose snow,

in the course of its flight, and of sitting still and allowing itself to be snowed over, and then starting out, as by a sudden explosion, on some surprise, have been attested by several writers of the best authority.

Audubon used to attract the Ruffed Grouse "by beating a large inflated bullock's bladder with a stick, keeping up as much as possible the same *time* as that in which the bird beats." "At the sound produced by the bladder and the stick," he says, "the male Grouse, inflamed with jealousy, has flown directly towards me, when, being prepared, I have easily shot it." There are many birds which may be decoyed by a faithful imitation of their notes.

The nest of this beautiful bird is associated with my recollections of childhood. I can see it still, a slight bed of leaves, on the ground, under a fallen tree, in the wild meadow. How the gentle wild hen would sit till we children came near enough to touch her, sometimes making our calls without causing the least disturbance. The eggs, about a dozen in number, and near the size of those of a pullet, some 1.55 X 1.15, are brownish-white, often neatly spotted and speckled with brown. Well do I remember, too, the stories in vogue among my playmates, as to the cunning tricks of the younglings—how they would scamper and hide on being found, turning over on their backs and pulling dried leaves over them for concealment; all of which I believed then, but long since have come to doubt. It is not the *perfection* of the concealment which I have come to doubt, for that is beyond question, but the *manner* of that concealment. The truth is their color is so much like that of the dry leaves, and they are either so motionless or so completely tucked away, that the eye cannot detect them. The tender, downy little creatures! who could harm them if he did find them! I once came upon a large brood just

hatched, and succeeded in catching some half-dozen; but how could I withstand the distress of the mother-bird as she tossed and tumbled over and over, mourning and clucking, sometimes near enough to be touched by the hand! Like Audubon, when he emptied the young Mallards from his game-bag, I was completely overcome by the demonstration of maternal anguish.

But the most affecting of all was to hear the tender clucking call of the mother, and the soft peeping reply of the flock of little ones, as soon as I was out of sight. To this moment I am hoping that she succeeded in getting all her young family safely together, after so rude a dispersion.

Berries of all kinds, as well as seeds, are the food of this species; and when these are scarce, even leaves and buds will do, and especially the catkins of the alder.

The Partridge, in its several varieties, pretty nearly covers North America, our variety occupying Canada and the Eastern United States into the mountains of the Carolinas. About the size of a common fowl, with a graceful crest and fan-shaped tail, the general color is a beautiful brown, variously mottled and clouded with light and dark; and it is readily distinguished by its bunch of glossy black plumes on each shoulder, and its broad band of black across the end of the tail.

CHAPTER III.

OPEN WINTER.

THE frost and snow of early winter have softened, ere the middle of the season, into such mild days, fields so green and skies so tender, that one almost imagines himself in some southern clime. Rain falls as easily as in April, and the air is laden with a genial vapor, which almost threatens to bring out the buds.

What happy moments were those this morning, as I sat in my study, by the large window facing the east, and watched the coming of the morning! It was announced by a delicate, rosy tint, stretching like a band along the horizon—a fringe, where the deep blue touched the darkened landscape. Anon, the lambent flame pervades the whole chamber of the east, transfiguring space itself, and strikingly in contrast with the clouds in the foreground—still sable under the shadows of retreating night. Now these dark clouds themselves have caught the glow and are soon turned into amber and gold. The rosy flames rise higher and higher, till they touch the zenith; and now a broad band of rich, transparent green unrolls along the horizon, and the whole heaven is aglow with the glory of the coming day.

THE QUAIL.

I must out, and away to the woods! Passing through a large peach-orchard, just before entering a beautiful, park-

like forest, I put up a small flock of Quails. They are now a rarity in Orleans County, New York, so much so that laws have been passed in this and adjoining counties giving them special protection throughout the year. But who could wantonly injure a Quail? This is surely the most winning game-bird in our land. Who can blame certain tender-hearted little children, who will not accept any apology whatever, for taking the life of one of them? The flight of the Quail on being startled is quite like that of the Partridge, except that it does not generally fly so far. The surprise to the observer, however, is greater, since the Quail is often in quite considerable flocks, whereas the Partridge is much less gregarious. Take your first chance for a shot at a flock of Quails, for, after the first putting up, they are scattered and very shy. Having flown in every direction, they ensconce themselves away so perfectly that they are not to be seen, till one by one they fly up almost from under foot; or, if the whole flock start, it will be from many different points in the vicinity, and so they will afford no shot, except singly.

The following citation from Audubon is so well worded, and so in accord with the facts, that I shall adopt it verbatim:

“When an enemy is perceived they immediately utter a lisping note, frequently repeated, and run off, with their tail spread, their crest erect, and their wings drooping, towards the shelter of some thicket or the top of a fallen tree. At other times, when one of the flock has accidentally strayed to a distance from its companions, it utters two notes louder than any of those mentioned above, the first shorter and lower than the second, when an answer is immediately returned by one of the pack. This species has, moreover, a love-call, which is louder and clearer than its other notes, and can be heard at a distance of several hundred yards. It

consists of three distinct notes, the two last being loudest, and is peculiar to the bird. A fancied similarity to the words *Bob White* renders this call familiar to the sportsman and farmer; but these notes are always preceded by another, easily heard at a distance of thirty or forty yards. The three together resemble the words *ah Bob White*. The first note is a kind of aspiration, and the last is very loud and clear. This whistle is seldom heard after the breeding season,* during which an imitation of the peculiar note of the female will make the male fly towards the sportsman, who may then easily shoot it.

“In the Middle Districts the love-call of the male is heard about the middle of April, and in Louisiana much earlier. The male is seen perched on a fence-stake, or on the low branch of a tree, standing nearly in the same position for hours together, and calling *ah Bob White* at every interval of a few minutes. Should he hear the note of a female, he sails directly towards the spot whence it proceeded. Several males may be heard from different parts of a field challenging each other, and should they meet on the ground, they fight with great courage and obstinacy, until the conqueror drives off his antagonist to another field.

“The female prepares a nest composed of grasses, arranged in a circular form, leaving an entrance not unlike that of a common oven. It is placed at the foot of a tuft of rank grass or some close stalks of corn, and is partly sunk in the ground. The eggs, 10-15, rather sharp at the smaller end, are white. The male at times assists in hatching them. This species raises only one brood in the year, unless the eggs or the young when yet small have been destroyed. When this happens the female immediately prepares another nest; and should it also be ravaged, sometimes even a third. The

* I have heard this same ditty occasionally in the pleasant days of autumn.

young run about the moment after they make their appearance, and follow their parents until spring, when, having acquired their full beauty, they pair and breed.

“The Partridge (Quail) rests at night on the ground, either amongst the grass or under a bent log. The individuals which compose the flock form a ring, and moving backwards, approach each other until their bodies are nearly in contact. This arrangement enables the whole covey to take wing when suddenly alarmed, each flying off in a direct course, so as not to interfere with the rest.”

A straw-stack in the field in winter is a great attraction to the Quail. Here flocks may be seen gleaning the stray kernels of grain; and nowhere do their graceful movements and quiet ways appear more winning. If unmolested and treated with a little kindly consideration, they will come even to the barn-yard and share the fare of the domestic fowl.

Being unsuspecting, and a bird of the fields, the pasture and the orchard, it is the victim of many modes of capture. Moving often in close flocks, many may be taken at a single shot; a figure-four trap may take a number at a time. In this way a lad of my acquaintance once took thirteen, feeding them under the trap, and taking them out as they were needed for the table. Audubon describes a method of driving them into a net in large numbers.

The predominant color of the Quail is a bright reddish-brown, occasionally streaked with black, and again shading into a beautiful gray, white beneath, crossed with zigzag lines of black; throat of the female brownish-yellow, and that of the male white. Smaller than a common bantam hen, it cannot be mistaken in Eastern North America.

It ranges throughout the Eastern United States to a little north of Massachusetts, and into Canada West and Minne-

sota. Like others of its order, it is particularly a seed and grain-eating bird.

The Partridge and the Quail belong to the *Gallinaceous* or Poultry order of birds, so named because it includes our common domestic fowl. They are for the most part a strongly marked order. The vaulted upper mandible, with its nostrils at the base and "covered by a cartilaginous scale;" the short, rounded wings; the breast-bone, with two such deep emarginations on each side, and the keel so cut away in front as to reduce it to a mere open frame; the heavy flight; the simplicity of the lower larynx; the muscular gizzard and large crop—are all points of differentiation which cannot easily be mistaken. They incubate on the ground, having a simple nest and a large number of eggs.

THE NORTHERN SHRIKE.

A little to my right is a large buttonwood tree, making a marked and beautiful contrast with the rest of the landscape, for in this tree there is no brown whatever, the trunk and main limbs shaling off almost to a pure white, and the spray being nearly black.

To an ornithologist a tree is never complete without a bird. So I strain my eyes to detect something of the kind in the thick branches, and am not disappointed. In the thickest part of the top, sitting almost motionless, is a Northern Shrike or Butcher Bird (*Lanius borealis*). Not far from the size of a Robin, 9–10 inches long, but with a much larger head and thicker neck, and a longer tail, its color is an olivaceous drab, with black patches from the base of the bill back across the eyes and down the sides of the neck; wings and tail black with white markings; underneath white, with cross-pencilings of black. But this coloration varies greatly in different individuals, the white some-

times being very dull, the black quite brownish, or, if both these are quite clear, the drab may be clear and bright, containing nothing of the olivaceous. This bird is an inch longer than its cousin, the White-rumped Shrike, the latter being a very common summer resident here, while the former generally spends only the milder or early part of the winter with us;* and all the noise we ever hear from it in that time is a hoarse scream, reminding one a little of a Hawk. Generally it is solitary, but sometimes it is accompanied by a mate. It must pass the colder part of the winter a little farther south, but is back again on its way north early in spring. It is reported as spending the entire winter in the vicinity of Mauch Chunk, Pennsylvania, and as making its winter trips as far south as 35°.

A few days since, while spending some hours with one of the farmers of my parish, I had a good opportunity to note certain habits of this bird. My friend was drawing in cornstalks from the field. Several of these Shrikes, perched in small trees scattered in the immediate vicinity, seemed bound to keep him company. Occasionally one would fly out a short distance from his perch, and hover in quest of prey, precisely in the manner of the Sparrow Hawk (*Falco sparverius*). Not infrequently a mouse would start out on removing a shock, when it was instantly gobbled up by the familiar, sharp-eyed bird. On removing one shock, a nest of full-grown rats was disturbed, some of which escaped the farmer's boot-heel and fork-tines. Presently I heard a loud squeaking in a corner of the fence near by. On hurrying to the spot, I found a Shrike, regaling itself on one of the young rats, and so intent on its meal that, though I was almost near enough to put my hand on it, it eyed

* If it be very mild and open, the Great Northern Shrike may remain in Western New York throughout the winter. The Loggerhead is a southern species of which the White-rump is a variety.

me hesitatingly for some time before concluding to leave.

In structure, as well as in habit, this bird is quite peculiar. Its bill is not a little like that of a Hawk, while its feet and claws, as well as its general figure, are very much like those of certain birds of song; consequently, with much of the bird of prey in its manner, it is still ranked, in point of structure, between the Vireos and the Finches. It will attack a Sparrow, peck out its brain, lug it around in its beak, and make a meal of it at its leisure, as readily as any of the Raptores, while in feeding it is in general as truly insectivorous as that of the most innocent song-bird. Indeed, its destruction of insect-life is altogether uncommon. It does not merely consume them as food, but has a certain barbarous habit of impaling them in large numbers on thorns, and that for no other purpose than mere wantonness, as it is never known to appropriate them afterward as food. It will sit by the hour in the presence of its struggling victims, and seem utterly indifferent to their tortures. The common European Shrike is represented as impaling small birds on thorns in a similar manner.

Wilson says: "It retires to the north, and to the higher inland parts of the country to breed. It frequents the deepest forests; builds a large and compact nest in the upright fork of a small tree, composed outwardly of dry grass, and whitish moss, and warmly lined within with feathers. The female lays six eggs, of a pale cinerous color, thickly marked at the greater end with spots and streaks of rufous. She sits fifteen days. The young are brought out early in June, sometimes towards the end of May, and during the greater part of the first season are of a brown ferruginous color on the back."

THE CROW.

The most noticeable bird of our winter landscape is the Common Crow. Neither cold nor snow can drive him away, while, in mild open weather, he scorns the woods and fields, and rises high in air against the passing breeze, as if he were sole lord of the entire region. He is hardly ever alone, and often appears in quite considerable flocks, sometimes in large numbers. To-day he is stepping about the plowed fields and meadows with all his wonted stateliness. What a splendid coat of glossy black he wears! He appears quite as well on the wing, too, as on the ground, moving with a steady, graceful energy, even in the raggedness of his moulting period, when the loss of main pinions is seen in the formidable gaps of either wing. Even his voice, though very much lacking in compass and far from being really musical, has a vigor and a significance amidst nature's sounds, which is far from being unpleasing. In short, we could easily be reconciled to him, aye, even pleased with him, were it not for certain of his thievish and cruel habits of diet.

Firstly. He is the arch-disturber of the corn-fields. How the farmer is obliged to tax his ingenuity in order to secure himself, in part at least, against his depredations! In that delightful book by Susan Fenimore Cooper, entitled "Rural Hours," is a little paragraph well illustrating the husbandman's resources in this respect. In her diary for the 4th of June she says: "The cornfields are now well garnished with Scare-crows, and it is amusing to see the different devices employed for the purpose. Bits of tin hung upon upright sticks are very general; lines of white twine, crossing the field at intervals near the soil, are also much in favor, and the Crows are said to be particularly shy of this sort of network; other fields are guarded by a num-

ber of little whirligig wind-mills. One large field that we passed evidently belonged to a man of great resources in the way of expedients; for, among a number of contrivances, no two were alike; in one spot, large as life, stood the usual man of straw; here was a tin pan on a pole, there a sheet was flapping its full breadth in the breeze, here was a straw hat on a stick, there an old flail; in one corner a broken tin *Dutch oven* glittered in the sunshine, and at right angles with it was a tambourine! It must needs be a bold Crow that will venture to attack such a camp." Then she adds in a foot-note: "This field yielded ninety-three bushels of maize to the acre the following autumn."

The *second* charge to be brought against the Crow is the destruction of other birds' nests. Never shall I forget the unhappy impression he made upon me many years ago in Nova Scotia, on my first discovery of the Snowbird's (*Junco*) nest containing young just hatched. The nest was under the bottom rail of a fence, and on approaching it the second time I discovered a Crow in the act of gulping down the last of the young. Never was my indignation over a bird greater, except when, in my childhood, a large Hawk carried off my black chicken. "The most remarkable feat of the Crow," says Audubon, "is the nicety with which it, like the Jay, pierces an egg with its bill, in order to carry it off, and eat it with security. In this manner I have seen it steal, one after another, all the eggs of a wild Turkey's nest." "In spring," says Wilson, "when he makes his appearance among the groves and low thickets, all the feathered songsters are instantly alarmed, well knowing the depredations and murders he commits on their nests, eggs, and young."

But, as in the case of many other transgressors, there are some weighty things to be said in his favor. In the same

field from which he steals the corn, he destroys many noxious worms and insects, especially cut-worms; not to speak of the snakes, moles and mice, whose career is cut short by him. Besides, to the unprejudiced lover of nature, his presence adds beauty and character to the landscape.

Between the good services and the mischief done by the Crow, Wilson, Audubon, and most other ornithologists, have found a large balance in his favor, while some, as Samuels, for instance, are well convinced that his depredations on crops, and more especially his destruction of the nests and young of the smaller and more useful birds, cannot be compensated by any good and useful office which it is possible for him to fill. The latter view is the one more in harmony with the sentiment of the common people; hence, in various times and places, premiums have been offered for his head, as in the case of the more destructive beasts of prey. In consequence of this, the number destroyed in a single State in a season has been as high as 40,000; and Wilson tells us that, during a winter of "long-continued, deep snow, more than six hundred Crows were shot on the carcass of a dead horse, which was placed at a proper distance from the stable, from a hole of which the discharges were made. The premiums awarded for these, with the price paid for the quills, produced nearly as much as the original value of the horse, besides, as the man himself assured me, saving feathers sufficient for filling a bed."

But whatever the public sentiment may be, no bird is better able to take care of itself than the Crow. Go into the field or forest, and steal a shot at it if you can! Under all ordinary circumstances, its keen eye and vigilant caution are a full match for its enemies. I do not see how Wilson's school-boy ever secured for him a basket of Crows. If one of my young friends shoots one over the carcass of a dead

sheep, pointing his gun through a loop-hole in the barn—and that did happen once—I consider that he does well.

Though not a few of the Crows remain here over winter; many more appear to go south, where they congregate in immense flocks, and are very destructive.

The unfrequented evergreen woods of Goat Island at Niagara Falls, in winter, and the steep, forest-clad slopes of the inaccessible gorge from the Falls to Queenstown Heights, throughout the year, are famous roosting places for the Crows. Here they may be seen at night-fall in almost countless numbers, streaming in in long processions from all the region round about.

The Crow's ordinary note, *khrah, khrah, khrah*, with a strong, guttural sound before the vowel, is familiar to every one. In the month of April, in New York, when the males are winning the females, the former will perch on some limb of a tall tree in the forest, and bowing most obsequiously, will utter in a low, deep tone the syllables, *Chow-ow-ow-ow, chow-ow-ow-ow*.

In respect to diet this species may be called omnivorous; stripping the sour cherry-tree of its abundant crop, stealing a chicken, lighting on the backs of cattle to devour the larvæ of the gad-fly under their skin, or regaling, in vast numbers, on offensive carrion, as readily as it would feast on insects and corn.

The Crow is a most annoying enemy of the Hawks and the Owls. As kingly a bird as the Red-tailed Hawk, can find no peace in his presence. Driven from his lordly perch among tall trees, I have seen him condescend to alight among the tall grass of the meadow, as if to hide himself away from persecution; but here the Crows would dive into his face, and, with the most persistent impudence, compel him to take shelter in some distant wood.

One day last April, while lying under a bush by a stream, and in the edge of a forest, in watch of ducks, I was startled by a stentorious demonstration near by among the Crows. Looking up I saw an immense tree-top literally black with them. The object of their indignation, to which every head was turned, was a Great Horned Owl, which sat staring and blinking in the middle of the tree. Evidently their bowing in concert with raised wings, and *cawing* enough to tear their throats, were anything but agreeable to him. The roar might have been heard a mile or more away, as each poured forth his volume of charges against this goggling, glimmering Night-watch. Presently, several dashed at him with wide-spread wings, when he rose and beat away through the tree-tops, followed by the long and deafening train of black persecutors. Alighting low down among the hemlocks, he was as bitterly attacked as before; and though he moved thus several times, until he was more than a mile away, I could still hear the same noisy demonstrations of bitter and persistent ill-will.

The nest, which is well hidden in the forest, and made early in spring, is composed of sticks, interwoven and lined with grasses, and sometimes with considerable horse-hair and other soft materials, there being almost invariably some dark mould in the bottom, perhaps to keep it cool. It is generally placed pretty well up in a tree, and contains from four to six eggs, of a light green, spotted and blotched with blackish brown, and about the size of a small hen's egg, some 1.70×1.20 . On Manitoulin Island and in the vicinity I found the Crow's nests in immense numbers. Indeed, they were much more common than the nest of any other bird.

Can the Crow learn to talk? To this I have but one authoritative answer. A very intelligent and estimable lady, the daughter of a frontier missionary in the early

days of Kansas, tells me that she has heard a Crow talk. An Indian used to visit the mission station, bringing with him one of these birds tamed, with the tongue split, and able to mimic distinctly quite a number of words, as also to originate little sentences of his own. During one of these Indian visits, a patch of land connected with the station was being plowed. The Crow, with his bright red ribbon tied around him and trailing on the ground, was busy picking up the insects, when our lady, then a little girl, along with her sisters, was trying to catch the ends of ribbon. Just as their tiny hands were about to grasp them, the wily Crow would spring forward, thus eluding their grasp, and looking back would tauntingly say, "You didn't, did you?" Well done for a Crow!

At Pittsburgh, Audubon once saw a pair of Crows perfectly white. Also a trusty parishioner of mine testifies that some years since he was accustomed, for some time, to see a pure white Crow leading the flock from one block of woods on his farm to another.

The home of our Crow is throughout temperate North America to 55°, excepting the central plains and southern Rocky Mountains.

CHAPTER IV.

BELOW ZERO.

SUDDEN changes are common to this climate. Immediately following our open winter weather comes a fall of temperature below zero, with just snow enough on a smooth-worn, hard-frozen road to make the sleighs slip easily. The snow crunches under foot, and, what is rather uncommon here, the trees and buildings resound with a strange snapping, almost equal to the report of a pistol, as if the nails in the buildings were springing out and the trunks of the trees were bursting asunder—sounds very mysterious to me in my childhood, but now understood to be caused by an expansion, on the freezing of water contained in the crevices of the trees or in the little exposed cavities of buildings.

THE SNOWY OWL.

There is something peculiarly exhilarating in this kind of weather. Everybody moves as if in a hurry; and, notwithstanding the cold, one discovers a strong inclination to be out. I am once more on my way to the favorite woods beyond the peach orchard, gun in hand. As I move briskly along that part of the orchard bordering on the forest, I put up a large bird, almost as white as the snow itself. The spread of its wings and tail is immense, and its flight is so noiseless and dignified that one might almost think it some living spiritual impersonation of winter. I take aim, and

down it tumbles headforemost into the snow. But it is only winged; so, taking it by the wings stretched over the back, I carry it home to surprise the family. That it is a female is to be inferred from its great size and from its more numerous dark markings; the male of this species being sometimes so free of the dark spots as to appear pure white, and the greater size of the female being peculiar to birds of prey.

Little children are apt naturalists, and have many questions to ask on an occasion like this, so I use my bird for an object-lesson. I call their attention to the large head, peculiar to the Owls among birds; and, turning the round, weird, half-human face fully before them, call their attention to the large eyes fairly in front, while the eyes of other birds are on the sides of the head; point to the circle of fringed feathers around the eyes, part of which nearly covers the bill, and part of which laps over the immense ear-hole; and note the eye-lashes, so strange among birds. This large, round, cat-like face, having also an almost human aspect, is at once the weirdest and the most highly sensitive. It is all eye and ear, stealthily confronting every sound that may break the stillness of the night, and every object that may loom up in the gloaming or the darkness.

"Do you see how the outer web of the outer wing-feathers or primaries is recurved, as if it had been firmly brushed backwards?" I asked my little girl. "What's that for?" she inquired curiously. "So that it can fly without making any noise," I replied; "that arrangement of the outer web, as also the general softness and looseness of the plumage, muffles the stroke of the wing, and enables the bird to steal upon its prey in the still hours of the night without alarming it. All the Owls, being night-birds of prey, have this modification of the wing." "O-o-o-o-oh! see that hole in

his face!" exclaimed my little boy, as I raised those long, loose feathers, arranged in the manner of a disk on the cheek of this bird. "That is his ear," I said; "all Owls have their ears in their cheeks." "That's a wonderfully big ear, I think; what does he have it covered up for?" he queried. "That is the fashion with birds; they generally have their ears covered," I replied. "Should think he'd want to have such a hole in his face covered," he continued. "He's got his face well wrapped up," said my little girl, as I parted the thick mass of feathers covering the face and the black bill almost to the very tip. "Shouldn't think his feet 'ud get cold either with such stockings. I wish he'd let me have 'em for my dolly this cold weather!"

This bird is, indeed, most wonderfully protected against the cold. Not only are the feet and legs so thickly covered with a long, dense, hair-like plumage, that the great, black claws are almost concealed, but the entire plumage of the body beneath the surface is of the most downy and elastic kind, and so thickly matted together that it is almost proof against the smaller kind of ammunition.

"Wish I had some of them for my doll's hat!" continued the little girl, as I plucked off a few of the ostrich-like plumes from the lower part of the body.

Wilson notes a peculiarity of the eye of this bird, and of the Owls generally. He says: "The globe of the eye is immovably fixed in its socket by a strong, elastic, hard, cartilaginous case, in form of a truncated cone; this case, being closely covered with a skin, appears, at first, to be of one continued piece; but, on removing the exterior membrane, it is found to be formed of fifteen pieces, placed like the staves of a cask, overlapping a little at the base or narrow end, and seems as if capable of being enlarged or contracted, perhaps by the muscular membrane with which

they are encased. * * * The eye being thus fixed, these birds, as they view different objects, are always obliged to turn the head; and nature has so excellently adapted their neck to this purpose that they can, with ease, turn it round, without moving the body, in almost a complete circle."*

The Snowy Owl is a bird of the Arctic regions. Common in the extreme north of both continents, it is ever at home amidst ice and snow; migrating southward in winter, regularly into the New England and the Middle States, and casually even to the extreme Southern States, breeding, according to the best authorities, as far south as the Canadas, and probably even in the north of Maine. I am not sure but it may rarely breed here; for, as late as the 7th of May, 1877, two were seen in the vicinity of Lockport, N. Y., one of which was shot and brought to me—a fine old male. The nest is said to be on the ground, in which are laid "three or four white eggs, measuring about $2\frac{3}{8}$ inches in length by 2 in breadth." Mr. Fortiscue says that at York Factory, Hudson's Bay, it goes north in summer.

According to Wilson, "the usual food of this species is said to be hares, grouse, rabbits, ducks, mice, and even carrion. Unlike most of its tribe, it hunts by day as well as by twilight, and is particularly fond of frequenting the shores and banks of shallow rivers, over the surface of which it slowly sails, or sits on a rock a little raised above the water, watching the fish. These it seizes with a sudden and instantaneous stroke of the foot, seldom missing its aim."

In my parish it has been known to attack the hens in the barn-yard in broad daylight.

This bird cannot be mistaken; nearly or about two feet long, white, with more or less scattered and lunated spots of

* This, however, is a characteristic structure of the eye of birds generally.

dark brown or dusky, thickest on the back, not found on the legs and feet; eyes, bright golden yellow; feet and claws, black.

I must not close my account of this bird without giving a striking incident reported to me by a most venerable and trustworthy old gentleman in my church, who was personally acquainted with the party, and to whom the facts were well authenticated at the time. About fifty years ago, in the town of Milford, Otsego County, N. Y., a man, on passing through a woods in the night, was twice knocked down by some strange power in the air; and, securing a club in time for the third rencounter, killed a large Snowy Owl, which, by this time, had knocked his hat full of holes, and sorely bruised his head.

WHITE-BREASTED NUTHATCH.

"All times are good times to go a-shooting." So says Dr. Coues; and knowing it to be so, I am again in the woods on this cold day.

I am struck, on entering, with the deserted look of the forest, and all the more on account of having seen this same spot, so many times, in all the life and splendor of summer—the trees in their marvelous robes of verdure, the wild flowers in all their grace and beauty, the birds in the full animation and song of spring. The wondrous power of memory reproduces in an instant all this combination, with its delightful associations of coolness and fragrance. Now the trees are bare, the flowers are perished, and the birds are gone; and how different is the solemn sough of the winter wind through leafless trees to the musical rustle of the summer breeze amidst the foliage! Did I say the birds are gone? No; not entirely. *Quank, quank, quank*. That note, so much louder in winter than in

summer, for the same reason that sounds are louder in the night than in day-time—that sound, half guttural, half nasal, and on a low key, is one of the most familiar in our woods throughout the year. It is the language of the White-breasted Nuthatch (*Sitta carolinensis*), a bird so common here as to be familiar to every woodman, though he may have no better name for it than *Sapsucker*, and may know no more about it than to suppose the name characteristic of its habits. But this bird is thus greatly misunderstood, for while it is supposed to be living upon the sap of the tree, it is simply gleaning noxious insects and their eggs and larvæ.

Whatever may be the woodman's opinion of the bird, its presence affords him pleasure on a bleak winter's day, partly because it is often his only relief from solitude, and partly because the bird is a pleasing object in itself. How gracefully it moves along the trunk of yonder tree! A slight halt every few steps, it goes in a spiral direction, head up or down, moving forward, backward, or sidewise with equal convenience, every now and then pausing with its downward head and bill in a horizontal position, as if listening intently, and then taking up its note as it passes on, as if to express its sense of safety and satisfaction. With this note it can favor one as readily on a frosty day in winter as in the genial days of spring. Then, however, it makes quite an attempt at a song, uttering a *tway-tway-tway-tway-tway*, quite rapidly, and with much spirit, as it threads its way in the leafless trees on a bright April morning. Occasionally it will utter in an undertone a soft "*tsink, tsink,*" or "*kip, kip.*" Sometimes it will alight on the ground, apparently to catch something which it has spied from a distance; or, for a few minutes, it will search the ground after the manner of the Golden-winged Woodpecker. The name

Nuthatch, though rather far-fetched, is not altogether inapplicable. Holding an acorn or chestnut in a bark-crevice, or in a chink of a fence-rail, it will hammer it with its sharp-pointed bill till it opens up the contents. This is done, however, on account of the larvæ burrowing in the fruit rather than for the fruit itself, for the bird is at all times strictly insectivorous. Then its form and color, too, are as pleasing as its movements. About six inches long, bill $\frac{5}{8}$ of an inch; head and bill together, about $1\frac{1}{2}$ inch long; tail, short; wings, long; the breadth across the shoulders giving it a somewhat flat appearance; bluish ash over the back, the outer webbing of the black wings edged with the same, also the two middle tail feathers; the rest black, marked with white; head and back of neck in male, glossy black; in the female, black and ash mixed; whole under parts and sides of head, grayish-white—this bird cannot be mistaken. Its long hind toe and claw must be of great service in its downward movements.

The Eastern United States and the British Provinces are given as its habitat. Its nesting habits are similar to those of the Chickadee; commonly on higher ground, however, and the cavity chosen or excavated higher up in the stub or decaying tree, sometimes as high as thirty or forty feet; the eggs being a little larger and more thickly marked.

A set of five eggs in Professor Ward's cabinet at Rochester, N. Y., from Saratoga Springs, averages about $.50 \times .75$ inch, are porcelain-white, with a few spots, or rather brush-touches, of dark-greenish or ochereous-yellow, at the large end—elegant! By the 9th of June I have seen the parents feeding the young well able to fly. The latter strongly resembled the mature female, except that the white on the cheeks and sides of the neck extended further upward, leaving the dark band over the crown and hind neck very nar-

row. Great care is shown these younglings by the parents in training them to creep and fly, and in feeding them most assiduously till quite mature. Indeed, the whole family seem not infrequently to remain together throughout the first year.

THE RED-BELLIED NUTHATCH.

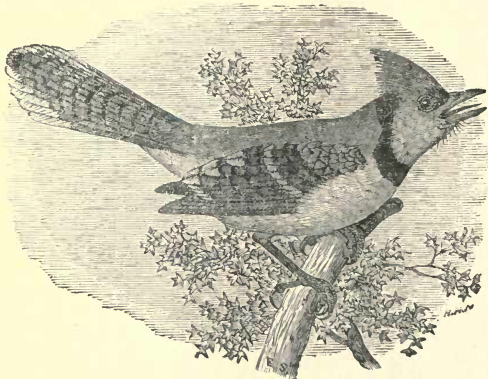
Very similar to the above in appearance and habit is the Red-bellied Nuthatch (*Sitta canadensis*), except that it is quite a little smaller, scarcely five inches long, has a white line over the eye, and the under parts of a pale rust-red. The female has the black about the head replaced with dark slate or dusky. The notes of this species are on a little higher key than those of *Carolinensis*, and its nest and eggs are precisely like those of the Chickadee. It is northerly, passing through New York State late in April and early in May, and again in September and October. Its breeding habitat begins in the northern parts of the State, extending through northern New England and into the British Provinces.

The little Brown-headed Nuthatch (*Sitta pusilla*), some 4.25 long and differentiated by its elegant brown head and white spot on the nape, is a resident of the Southern States. There the sunny pine forests echo its note—"cach, cach, cach"—its nesting and habits in general being quite similar to those of our Nuthatches above described.

THE BLUE JAY.

The thermometer continues near zero. Large windows are now truly objects of beauty, their frosted patterns being inimitable. The larger figures remind one of ferns, or forest trees in miniature; some are like thin snow-flakes of varied size and pattern, some like delicate lines fringed mostly at right angles; others are simply granulated with exquisitely

scrolled borders, while others still are suggestive of landscapes and pictures—all so delicate as to impress one forcibly with the spirituality of the laws which govern matter.



THE BLUE JAY.

What a study it would be for the physicist to determine the variations possible on the one plan of crystallization of water at an angle of 60° !

To-day I came into possession of a bird, the brilliant colors of which are strikingly in contrast with the plainness of winter. The Blue Jay (*Cyanurus cristatus*) is one of our winter residents, not so generally distributed as in most parts of our country, but quite common to certain low, timbered lands, where it is permanent, and breeds in considerable numbers.

This is one of the most characteristic birds of Eastern North America. Who does not know the Blue Jay? About a foot long, five inches, or near one-half his length, is measured by his tail; well proportioned, crested and fan-tailed, his form is elegant and his bearing stately; his various and

delicately-shaded tints of blue, the jet-black bars and snow-white tips of the wing and tail feathers, the black band from the back of the crest down the sides of the neck and meeting on the breast, and thus being most noticeable on the subdued grayish-white of the cheeks and underparts—are all in the most marked and pleasing contrast. No colored portrait which I have ever seen is anything more than a coarse caricature of the purplish-blue of the crest and back, the brownish-blue on the tail, and delicate shadings of rich indigo, ultra-marine and light azure on the wings. A single feather of the wing or tail, dropped in the pasture, used to excite my childish curiosity and love of beauty. Looking merely at his size and gay dress, who would suspect him to be a member of the Crow family? Surely he is a favorite arrayed in a coat of many colors. Not only is he elegant in form and gay in apparel, but every motion indicates a proud, self-consciousness and love of display. Even his flight, which is straightforward and steady, is showy rather than rapid. When alighted, he stands upright, with elevated crest, and all his movements show an air of vanity and self-complacency.

His notes are many and various. His common, saucy-squealing, *chay, chay, chay*, which, no doubt, gave him his name in part—the other part being derived from his color—must be familiar to all who know him. "*Pwilhilly, pwilhily*," and "*chillack, chillack*," are among his other more common utterances, while a sort of creaking, clucking sound may be regarded as his love-call. He is capable of imitating many birds, and there is some authority for asserting that he, true to his crow-nature, has even been taught to imitate words. He is especially fond of teasing. Wilson says: "He is not only bold and vociferous, but possesses a considerable talent for mimicry, and seems to enjoy great

satisfaction in mocking and teasing other birds, particularly the Little Hawk (*F. sparverius*), imitating his cry whenever he sees him, and squealing out as if caught; this soon brings a number of his own tribe around him, who all join in the frolic, darting about the Hawk, and feigning the cries of a bird sorely wounded and already under the clutches of its devourer; while others lie concealed in the bushes, ready to second their associates in the attack. But this ludicrous farce often terminates tragically. The Hawk, singling out one of the most insolent and provoking, sweeps upon him in an unguarded moment, and offers him up a sacrifice to his hunger and resentment. In an instant the tune is changed; all their buffoonery vanishes, and loud and incessant screams proclaim their disaster."

Like his near relative, the Crow, he takes delight in tormenting the Owls.

But lacking as the Blue Jay is in anything like gentle or winning ways, he might still meet with a fair toleration were it not for his thievish and cruel habits. How he will devour the fresh eggs from the bird's nests in his neighborhood on the sly, gobble up even the tender young, sometimes in his barbarous daintiness taking nothing but the eyes and brain! how he will pick out the eyes of a wounded grouse; how he will steal corn from the bin, fruit from the garden, and grain from the barn, has been noted by ornithologists in general. I have seen him lugging around an old sparrow in the tops of the trees, in the month of May, picking out the eyes and brain at his leisure, and seemingly without the least compunction; while, like all other tyrants, when the true test comes, he is by no means brave, often "turning tail" to birds much smaller than himself. In view of all this, who will pity him when, during the long winter months, he is obliged to subsist on the frozen apples of the

orchard, or, at other times of scarcity, to glean scraps of carrion! His best living, probably, is when the nuts are ripe and plenty. Like other members of the Crow family, he can eat anything, and so is called omnivorous.

In the breeding season the Blue Jay is partial to the evergreens of the forest, especially to dense cedar swamps, the nest being most commonly built in an evergreen tree, generally near the trunk, and anywhere from ten to thirty feet from the ground. The outside of the nest is composed of small twigs, the inside of fine rootlets, closely interwoven for the kind of materials, and having a dark appearance. The eggs, four or five in number, and about the size of those of a Robin, about $1.15 \times .85$, are greenish-drab, finely speckled all over with light-brown and dull-lilac.

Habitat, Eastern North America, from the Gulf to 56° , breeding throughout its range.

The Florida Jay (*Aphelocoma floridana*), lacking the crest and the elegant black bars on wings and tail, is also blue and about the same size as the above. With no white markings on wings and tail, a plain gray patch on the back, and a whitish forehead, it is much plainer. The blue band about the head and neck contrasts finely, however, with the gray of the back and breast. It is abundant in Florida, and seems to be pretty much confined to that locality.

THE GOLDEN-WINGED WOODPECKER.

Between sunset and dark of this cold winter-day, I behold a most beautiful effect in the eastern sky. All along the horizon is a broad band of brilliant green, which gradually shades into a still broader band of rich purple, and this latter, on approaching the zenith, shades into a cold winter-gray. In the midst of the purple is the moon

just before the full, and in front of the green is a bright train of silvery clouds, tinted with the lingering hues of a rosy sunset.

I am traversing the border of a large tract of woods, when, high above the rest of the trees, in the tops of the towering elms, I discern the form and flight of the Golden-winged Woodpecker (*Colaptes auratus*), a bird but occasionally seen in this locality in winter. Silent and shy, he makes off as fast as convenient, keeping to the tops of the tallest trees. I strain my eyes for a last glimpse of him, but he soon vanishes in the gloaming.

What a train of recollections and associations that momentary flight recalls! Next to the Robin, Bluebird, or Barn Swallow, few members of the feathered tribes are better known than "Flicker," "High-hole," "Yellow-hammer," etc., for the Golden-wing is known by all these names. His several notes are among the most characteristic sounds of spring, at which time he is thoroughly noisy. Coming from the south in large numbers late in March or early in April, ascending some tall, dry tree-top at early dawn, he announces himself either by a sonorous rapping on the dry wood or by a loud squealing, but jovial call, *chee-ah, chee-ah* which, once noted, is not easily forgotten. But even this latter is not half so awakening as a certain prolonged strain, of merely two syllables in regular repetition, something like *whric'k-ah—whric'k-ah—whric'k-ah—whric'k-ah—whric'k-ah—whric'k-ah*. This vocal performance, meant for a song no doubt, is a mere rollicking racket toned down, indeed, amidst the many voices of spring, and even rendered pleasing by its good-natured hilarity. How significant is that little love-note, *yu-cah*, half guttural, half whisper, which he repeats at intervals as he flits about the solitude of the forest in spring, or plays bo-

peep with his lover around the broken-off top or limb of some dead tree!

His flight is swift, vigorous and dashing; is performed in curves by a few flaps of the wings, curving upward several feet when alighting on the trunk of a tree, but ending horizontally when alighting cross-wise on limbs, after the manner of perching birds. In manner, as in structure, he is not precisely like the rest of his family. At home anywhere from the tallest tree-top to the ground, and always in a hurry when afoot, he will capture his insect food after the manner of Robins and Sparrows. Ants of all sizes are specially in favor with him. Why he should have such a decided preference for this dry diet it is difficult to conceive—perhaps on account of the tickling sensation which large numbers of these vigorous little creatures may afford when taken alive into the stomach. In summer and in autumn, when these birds are sometimes exceedingly numerous, they do not disdain certain kinds of small fruit, as wild grapes and elderberries.

The nidification of this species is so much like that of other Woodpeckers as to need no special notice, except in two particulars, viz., that Flicker frequently chooses a much decayed stub, and that the eggs are especially translucent and beautiful, the yolk appearing through the shell when fresh. It may perhaps be added that the eggs are sometimes laid at irregular intervals and in extraordinary numbers.

About the size of a Pigeon, some 12.50 length and 19.00 extent, with bill slightly curved, its head and neck are of a purplish-drab, with a scarlet crescent on the back of the head, and, in the male, a black spot on each cheek at the base of the bill; upper parts greenish-brown, spotted with black; rump white and very conspicuous in flight; under

parts reddish-white, beautifully spotted with black; a black crescent on the breast; shafts of the larger feathers, under side of wings and tail a rich yellow.

This bird ranges through Eastern North America, residing from the Middle States southward, some wintering as far north as New England, and breeding throughout its range.

CHAPTER V.

A JANUARY THAW.

IT is the last of January, 1880. We have had a complete thaw; the frost is about out of the ground; the sunny days would do credit to the last of March. Of course, ornithologists are on the lookout such days as these, so I must to the fields and to the woods.

THE SNOW-BIRD.

As I spring over a pasture fence I startle a flock of Snow-birds (*Junco hyemalis*) from among the withered golden-rods of last year. *Tsè-tsè-tsè-tsè-tsè*, and they leave *en masse* for the brush-heap yonder. Both sight and sound give me clue to them at once, for they are common here from October till May. The great body of them, however, pass southward in autumn and northward in spring, it being one of the most abundant birds in the migrations.

Who does not love the Snow-bird? Not for its gay apparel, however, for it is not only plain, but even sombre in dress. The Mourning Sparrow, it might be called. A fine male is almost as dark as crape, the pure white of his bill, feet and legs, lower breast and under parts and feathers on either side of his tail, being a most delicate set-off. The female, when lightest, has the dark parts, a half mourning gray, or dark drab. How strikingly in harmony is this little bird with the gloom of autumn, the bleak days of winter, or the chilly winds and unclad fields of early spring!

In size, structure, and habit, it is every whit a Sparrow, and quite frequently chooses the various members of that family for its company. Most intimately is the history of



THE SNOW-BIRD.

this bird associated with my childhood. I well remember the sunny spring day in Nova Scotia, when, in my boyish delight, I found the first two bird's nests—the first, that of the Hermit Thrush; the second, that of a Snow-bird. Ever after I found the nest of the latter among the most common. Situated like that of the Song Sparrow, generally on the ground and under some protection, rarely on a stump or in a low bush, it is neatly built and most softly lined with hair—often the hair rubbed off by the cattle on the stumps. It contains some four eggs about $.80 \times .60$, of a fleshy white, sometimes tinged with blue, delicately specked with reddish-brown. This nest is a very gem of its kind—almost proof in itself against the boyish propensity to dis-

turb this kind of treasure. When startled from her nest the female is much excited, hobbling along on the ground as if lame or leg-broken, her wide-spread tail showing the white feathers on either side—the mark of relationship to the Bay-wing—to the best advantage. Hopping about the nearest stump or fence-rail, in the most uneasy manner, she is joined immediately by her darker mate, in her sharp *chip-chip-chip-chip-chipping*, and again takes possession of the nest as soon as the intruder leaves. The *chipping* note of this bird is so much like that of the Chipping Sparrow (*Spizella socialis*) that Wilson found many persons in New England and some in New York State who believed that the former turned into the latter in summer, and it was most difficult to remove the erroneous notion.

Resembling the Song Sparrow in size and general habit, the Snow-bird differs widely from it, not only in color, but in its song, which is a prolonged tintinnabulous twitter—a more musical rendering of the monotonous strokes in the plain melody of the Chipping Sparrow. Sometimes, however, one may surprise it in a soft, low warble, as if indulging in a musical soliloquy.

Though belonging to the *Fringillidæ*, or seed-eating family, it is, in summer at least, particularly insectivorous, completely crowding its mouth with soft, writhing larvæ for its young.

Audubon gave the Alleghany Mountain range as the breeding habitat of this bird, and did not see it in Labrador. Minot reports it breeding in the White Mountains early in June, and sometimes again in July. Augustus H. Wood, an ornithologist residing at Painted Post, N. Y., reports it breeding commonly in his neighborhood, in damp situations in ravines of hemlock woods. I have myself seen the female, on the 7th of June, her mouth crammed with larvæ, in Tonawanda Swamp, in Orleans County, N. Y. Dr. Coues

informs me that in suitable localities it breeds southward, even to Virginia and North Carolina. May not the damp coolness of the swamp retain northern birds during the breeding season as well as do the mountain ranges?

The Snow-bird winters from Southern New England southward to the Gulf States. In the Rocky Mountains and to the westward it is replaced by closely-allied species or varieties.

THE MEADOW LARK.

It is ten o'clock in the forenoon. A strong south wind springs up, and the sky, so clear and sunny an hour ago, is covered with dense, gray clouds. I am strolling along the telegraph road by an old stone fence, when a pair of Meadow Larks (*Sturnella magna*) light on the fence a few rods from me, scarcely able to stand up against the wind. They are occasionally seen here throughout the winter.

For the most part, however, this is a migratory bird, entering the Middle States, New England, and corresponding latitudes about the second week in March, and going south in flocks with the later migrations to spend the winter in the Southern States. Here, according to Wilson, at this time of year, "they swarm among the rice plantations, running about the yards and out-houses, accompanied by the Killdeers, with little appearance of fear, as if quite domesticated."

In the wet, chilly days of March we are forcibly reminded that spring is here by the clear, sweet, but plaintive warble, which comes in soft, whistling tones from meadow and pasture, *wee-tsee-tsee-ree-ee*, *tsee-ree-tsee-ree-ee*. The strange flight, too, consisting of a few tremulous, vibrating strokes of the wings, succeeded by a short sailing, clearly distinguishes the Meadow Lark. What strange impulse is it which starts this bird thus early northward to buffet

benumbing winds and rains? Had we the wings of a bird, would we not then fly away to sunnier climes and be at rest?

Always a bird of the fields, hence sometimes called "Old Field Lark," on its arrival it keeps to the ground, the stone heaps, and the fence. As the period of mating and nidification approaches, the male becomes quite noisy. Launching into the air at a considerable height, instead of his whistling warble, he gives vent to a loud, guttural twitter. Frequently alighting in solitary trees about the field, he steps back and forth, and jerks and spreads his tail in the most uneasy and excited manner. The female, meanwhile, seems shy and retiring, and frequently needs a good deal of coaxing on the part of the male; but in due time receives his amorous attentions with the utmost complacency.

Though this species breeds in Florida already in the latter part of April, nidification does not begin here till the middle or latter part of May. In the case of a most typical nest, an excavation is made in a tussock of grass; coarse dried grasses are duly arranged as a frame-work, and the lining is of fine grasses, while the dried grasses of the previous year, still standing around the excavation, are matted and arranged overhead with other material, so as to form a roof open on one side. In this cozy home are placed four or five white eggs, a little larger than those of a Robbin, about $1.10 \times .80$, speckled, and sometimes blotched, with reddish-brown and lilac. Sometimes, however, the nest is quite exposed, like that of a Bay-winged Sparrow. In New York State a second brood may be raised. The young are most tenderly cared for by the parents for weeks after being able to fly; indeed, up to the period of migration the whole family generally keep together. When caring for their young the parent birds have a peculiar note, which sounds like *quaiip, quaiip*.

In the beautiful days of October the male often indulges in his delicious warble. At this time the moult has somewhat changed his appearance. The brown tips and markings of the black feathers above, the more perfect fringes of very light brown, which adorn all the dark plumage, as well as the various light markings about the head, are all of a warmer, redder tint, while the bright-yellow underneath, and especially the jet-black and somewhat heart-shaped collar on the breast, are so deeply fringed with reddish as to render them somewhat obscure. In plumage, voice and nidification, this bird resembles the Lark, but in structure, it is more properly an American Starling. On the prairies and plains of the far west there is a lighter-colored variety, said to differ in song; while in South America, there is a beautiful Red-breasted Lark, similar to ours in form, size, and marking.

The Meadow Lark's long-pointed bill and enormous legs and feet may be regarded as indicative of its ground-life and insect diet. Though seeming to be a rather awkwardly-shaped bird when examined in the hand, it often takes an attitude when alighting, especially if on a rock, which is exceedingly graceful.

Breeding in Texas and Florida northward as far as the Columbia and the Saskatchewan rivers, Mr. Everett Smith reports it as "common in western Maine;" and adds, "not common east of the Kennebeck Valley, and almost unknown east of the Penobscot Valley. Much less abundant in the western part of the State now than twenty years ago." Mr. Chamberlain notes it as "a rare summer resident" in New Brunswick.

THE RED-HEADED WOODPECKER.

I pass on to the woods and meet a striking object but occasionally seen in our winter landscape, the Red-headed

Woodpecker (*Melanerpes erythrocephalus*). About the size of most of its relatives in this locality, some 9.50 long, with bright-scarlet head and neck, upper parts black with steel-blue reflections, except the rump and secondaries, which, like the under parts, are white, it is so well known as to need but little description. This bird is a common resident here during the summer, and, in most respects, is so like other Woodpeckers in habit as to need but little special history in a work like this. Its partiality to roadsides, its striking coloration of red, white and black, making it one of the most strikingly beautiful bird-ornaments of our landscape, and its excessive fondness for fruit, especially cherries, are its most marked peculiarities. Its ordinary call, *ker-er-er-er-er*, when rollicking in the tree-tops, is very characteristic.

THE BROWN CREEPER.

The Red-head passes out of sight, and for a while all is silent. Hark! there is a soft conversational twitter among the hemlocks. I wait patiently, and strain my eyes in this direction and that, but for some minutes can see nothing. Presently a troop of Chickadees appear; then several White-bellied Nuthatches, uttering a soft *kip, kip, kip*, and an occasional sonorous *quank, quank*, pass by in their usual spirited manner; and, while they are yet passing, two Brown Creepers (*Certhia familiaris*) come in sight. Lighting at the base of the trees, they ascend them by dainty little jerks in a spiral manner, gleaning food as they go, uttering an occasional soft *chip*, or a quick *shree-shree-shree*; often flitting away from a tree before ascending very high, in order to begin the ascent at the base of another, which, this time, perhaps, will be continued to the top. How well the color of this little bird, a variety of rich browns curiously marked—the white underneath being out of sight—corresponds

with the colors of this open winter. Its long, slender bill, much curved, is well adapted to picking insects and their larvæ from the crevices of the bark, while the sharp claws and rigid-pointed tail-feathers are a sufficient support to the ascending movements. It is too graceful and dignified ever to hang head-downward like Nuthatches and Titmice. It is also rather shy, frequently keeping the opposite side of the tree on seeing the observer, and then it is necessary to get behind a tree also, and, looking for it some distance higher than the point where it disappeared, one may get a glimpse of it again. Its flight is very nervous and quick. In spring it will be much more numerous, as the greater number of this species passes south in autumn and north in spring, when it has a soft and melodious song.

It is now well made out that the ordinary nesting-place of this species is behind a loose strip of bark on a dead tree or a stub, from five to fifteen feet from the ground. Composed externally of dried twigs arranged lengthwise between the bare mast-like trunk and the loosened bark, and so assuming a crescent form elevated at both ends and depressed in the middle, the interior and bulk of the nest are of shreds of the inner bark of various trees, with, perhaps, some *usnea* and spider's cocoons, and lined with still finer shreds of bark or with feathers. If the bark is so close to the tree as barely to admit the nest, the external structure of twigs is dispensed with. The tree or stub chosen is generally of the pine or fir, and is nearly denuded of bark. The eggs, generally five or six, averaging $.59 \times .48$, are delicate white, rosy when fresh, finely marked with brown and purplish-brown. They resemble those of the Titmice and Nuthatches.

This diminutive species, some 5.50 long, is at home alike in Europe and *throughout North America.*

THE GREAT HORNED OWL.

Our four seasons, spring, summer, autumn and winter, are not divided by exact lines. There is no perceptible difference between the last of May and the first of June, nor between the last of August and the first of September; and the melting power of spring is in the air, even in our climate, long before the last of February. The birds do not begin to make their appearance from the south, indeed, until some time in March; yet there is one common resident, which breeds already in February, becoming conscious, perhaps, of the genial influence of the first melting rays of the sun. About the middle of the last-named month a youth brought me a large, living female of the Great Horned Owl (*Bubo virginianus*), which had been winged while on the nest; and he had also secured the eggs. The nest was a huge pile of sticks, placed very high in a beech tree; the eggs, two in number, some 2.25×2.00 , were roundish, smooth, and of a dull but clear white. The nest is said to be found sometimes in a hollow tree, or even in the cleft of a rock, but generally in a tall pine or hemlock, and to be generally "lined with dry leaves and a few feathers," the eggs being sometimes as many as six. Twenty inches or two feet in length, tawny or whitish, variously mottled with brown and black; with a large, white patch on the throat, large ear-tufts and bright-yellow irides; his is a large, homely form, patched and spotted with the plainest of colors, and having a face like that of a lynx rather than of a bird. Nor are his habits any more agreeable than his personal appearance. Most formidable as to bill and claws, he is a sly, destructive bird of prey, even to the devastation of the poultry-yard. Wilson tells the following amusing anecdote about him: "A very large one, wing broken, * * * was kept about the house for several days, and at length disappeared,

no one knew how. Almost every day after this hens and chickens also disappeared, one by one, in an unaccountable manner, till, in eight or ten days, very few were left remaining. The fox, the minx, and weasel were alternately the reputed authors of this mischief, until one morning, the old lady herself, rising before day to bake, in passing towards the oven, surprised her late prisoner, the Owl, regaling himself on the body of a newly-killed hen! The thief instantly made for his hole under the house, from whence the enraged matron soon dislodged him with the brush-handle, and without mercy dispatched him. In this snug retreat were found the greater part of the feathers, and many large fragments of her whole family of chickens."

In confinement the Great Horned Owl is simply *horrible*. He will squint and scowl at one in the most ominous manner; and again turning his eyes into very balls of fire, will snap at one like a cross dog, hiss like an angry cat, and strike his claws at one with the most murderous force. Did I not once see a large dog rush around the house in perfect desperation, in the attempt to disengage the claws of this bird from both sides of his head?

If reared from the nest, however, he may become quite docile and friendly. Mr. Bruce, of Brockport, has one such, which, on being greeted with a bow by his master, will bow and blink most obsequiously in return, and will even reach out his foot to shake hands. One now in the large museum at Drummondville, Ontario, opposite Niagara Falls, will *boo-hoo* and *bawl*, after the most hideous manner of his wonted midnight carnivals in the forest, in answer to the conversation and questions of his keeper.

Concerning the courtship of this bird, Audubon says: "The curious evolutions of the male in the air, or his motions when he has alighted near his beloved, it is impos-

sible to describe. His bowings and the snappings of his bill are extremely ludicrous; and no sooner is the female assured that the attentions paid her by the beau are the result of a sincere affection than she joins in the motions of her future mate."

How O! How O! Hoo-hoo-hoo-hoo-hoo! These, with many other screaming and choking sounds to one who has heard them, and has both a good memory and a good imagination, may be especially significant. But of all the sounds with which this bird makes night hideous, no one has heard any to the greatest advantage, unless, passing through some dismal forest in the full blackness of night, he has heard the alarm sounded suddenly in the tree-tops above him.

No one need fail of the acquaintance of the Great Horned Owl, for he is abundant, and the whole continent is his habitat.

THE RED-TAILED HAWK.

It is the last of February. The ground is frozen hard; a light fall of snow during the previous night has but covered the earth, and the sun has started on his career through the heavens without a cloud to obscure his pathway. Gun in hand, I have entered the nearest woods, and am crossing the course of a run, smoothly frozen over, when I break through the shell-ice, and from the dry region beneath the Gray Rabbit (*Lepus sylvaticus*) springs out through the opening at my feet, and squats on a log only a few feet from me. I attempt to fire, but the gun will not go off. I spoil several caps, and go home to see what the matter is, well knowing that I can track my game in the new snow for some time to come. I am chagrined at the loss of the Rabbit, but am diverted by the flight of a Red-tailed Hawk (*Buteo borealis*), which, high in air, seems to be enjoying this delightful morning.

How much there is in the flight of a bird! Full well has the Duke of Argyll seized upon it as an unmistakable evidence of design in nature. From the fish darting through the pathless waters, or the serpent gliding without legs or feet along the ground, or the frog leaping with surprising elasticity, or the stately stepping of the steed, up through all the various styles and methods of animal locomotion, to the eagle which soars above the clouds, the flight of birds is by far the most interesting and wonderful. How that Hawk floats like something ethereal in the atmosphere! His lungs affording communication with a system of large cavities throughout the body, the bones and muscles, even, and the spaces between the body and the skin being pervaded by the ramifications of air-cells, every respiration literally fills him; and this inhaled air being rarefied by the heat of his body, not to speak of the innumerable interspaces of the light plumage, all pervaded by the external air, he is almost as light as the clouds themselves. If the reader has ever climbed a mountain, and known the intoxication of delightful sensations produced by a rarefied atmosphere, he may form some conception of what must be the pleasurable sensations of this soaring creature.

As to the act of flight itself, the upper side of the wing being convex, and the wing somewhat drawn together, the upward stroke in flight meets but little resistance, while the under side, which is concave, incloses the atmosphere in the downward stroke of the fully-extended wing, and so secures the full force of its elasticity. This, however, simply enables the bird to rise. What carries it forward? The air, escaping behind the long, elastic pinions, drives it on, somewhat as the wind, escaping behind the sail, propels the boat. The *sailing* of the bird, with steady, motionless wings, is accomplished by a nice adjustment of the wing to the

breeze, precisely like the trimming of a sail. But to hover is the most wonderful feat of the bird—to make rapid strokes with the wings, and yet remain at the same point in the air. Who has not seen the King-fisher, or the Sparrow Hawk hover? or the Humming-bird, as it poises itself in front of the flower, to capture the insects housed in its beautiful chambers, or to sip its nectar? This is done by an *oblique* stroke of the wings. The bird is never in a horizontal position in hovering, but always poised at an angle, thus allowing the air to escape from the wing in such a manner as simply to keep it up. Here is design, indeed, but also something still higher; the thought of flight must have preceded the nice adjusting of the structure and functions of the wing to the aerial laws. But there is no thought without a thinker; hence the flight of the Hawk carries my mind up to the Great Creator. And is this not a great lesson taught in a most pleasing manner? Who could not derive pleasure in beholding such majestic soaring, such grand spiral curves of immense sweep, such sublime elevation, till the bird becomes a mere speck against the ether? I cannot think of any bird short of the Eagle whose flight can equal this in elegance and grandeur. It is the very poetry of motion. What can the bird be thinking of at such a time? Is it not enjoying that animated existence, the very consciousness of which, in its normal state, is bliss? Great lesson to unsatisfied human nature.

Here let us quote a few lines from John Burroughs: "The calmness and dignity of this Hawk, when attacked by the Crows or the King-bird, are well worthy of him. He seldom deigns to notice his noisy and furious antagonists, but deliberately wheels about in that aerial spiral, and mounts and mounts till his pursuers grow dizzy and return to the earth again. It is quite original, this mode of getting rid of

an unworthy opponent, rising to heights where the braggart is dazed and bewildered and loses his reckoning! I am not sure but it is worthy of imitation."

The tube of my shot-gun cleared, I return early in the afternoon in search of the Gray Rabbit. I have no difficulty in tracing his track in the fresh snow, but what a zigzag course he has taken! I seem to have traveled miles, and yet am only a few rods from the place of starting. Alas! poor Rabbit! I have reached the end of his career, and find simply a great spot of blood on the snow, with bunches of hair and a few bones. While I am trying to conjecture the author of this tragedy, I look up to the top of a tall tree quite near and spy a Red-tailed Hawk motionless as a statue. He is probably the one I saw soaring so majestically a few hours ago, and is now resting in favor of digestion, after gorging himself with the missing Rabbit. Somewhat annoyed at the extent of the meal, but more over the loss of my game, I take aim and bring him to the ground. He must lose his life in penalty of gluttony. Ordinarily, he would not have allowed the hunter to come near enough to reach him with a shot-gun. He is only wounded, however, and rearing himself on claws and tail, assumes a most formidable attitude of defense. With superciliary ridges projecting far over his eyes, which gleam with vengeance, with mouth wide open and crest erect, what a savage physiognomy he presents! And in what a threatening manner he raises his powerful wings! '*Hands off!*' is the language of his whole expression, as bill, wings and claws are in equal readiness for blows and wounds. I extend to him the muzzle of the gun, which he grasps so firmly with both talons that I carry him home before he relinquishes his hold. Nailing slats across a large box, I attempt to keep my bird in confinement, placing food before him regularly,

and showing him every possible attention; but, like a genuine savage, he will neither eat nor show any sign of grief or submission. And yet I must admire him, for he finally dies without any yielding of spirit, without any disposition whatever to become a slave.

The Hawks, as a group belonging to the birds of prey, are placed between the Owls and the Vultures. The Hawks again, according to their structure, are naturally arranged into Harriers, Falcons, True-hawks, Buzzards and Fish-hawks. The Red-tailed Hawk, often called the Hen Hawk, is a Buzzard, and, like the rest of the Buzzards, is so nearly related to the Eagle as to afford very little structural difference. In dignity of habit this Hawk, as well as some others, stands above the Eagle. The latter is often a notorious thief, wresting the hard-earned prey from other birds, or even condescending to the most putrid carrion, while the Hawks in general capture their own prey. The fare of the Red-tailed Hawk is quite in keeping with his dignified bearing, consisting generally of hares, squirrels, birds, barnyard fowl, frogs, or a fancy snake. In search of the latter, or perhaps even of mice, you may sometimes see him scouring the meadows somewhat in the manner of the Marsh Hawk. Generally, however, with a keen-sightedness which is perfectly marvelous, he descries his prey from the enormous height of his spiral sailing, sometimes dropping almost meteor-like, and then suddenly checking himself, he seizes his quarry unawares; or he alights on it from some perch near by, whence he has been reconnoitering an immense reach of territory. On the whole, if it were not for his depredations on the poultry-yard, we should think more of him than of any other bird of prey. The natural adaptation of this class of birds to a life of cruelty makes them repulsive to the tenderer feelings, unless, indeed, we conceive

that the perfection of nature's variety needs a cruel phase, just as the various shades of light and of color need darkness for their perfection.

The Red-tailed Hawk is nearly two feet in length; the color above is a rich dark-brown, the wings and upper tail-coverts marked and barred with dusky and white; the tail is generally bright chestnut-red, sometimes margined with white, always sub-margined with black reddish-gray beneath; the under parts generally white, with a zone of brown markings across the breast. The cere, legs and feet are bright-yellow. This may be regarded as the ordinary marking of the mature bird. It varies greatly, however, with age. The male is several inches shorter than the female.

In Western New York, the Red-tailed Hawk lays its eggs in March or April. The eggs, three in number, of a nest taken the 27th of March, are now before me. One of my parishioners discovered it in a large beech tree, only a few rods from his sugar-camp, where he was busy every day gathering and boiling sap, the birds not seeming in the least disturbed by the business. The nest, equal in bulk to a bushel-basket, composed of sticks rudely piled, lined with fine strips of the inner bark of ash rails in a slashing near by, was in the fork of a large limb, about fifteen feet from the trunk, and about a hundred and twenty feet from the ground. A truly perilous undertaking was this ascent, and yet a young friend kindly volunteered his services, saying, with a very suggestive look: "If I fall and break my bones, you must pay the doctor's bill; if I kill myself, you must pay my funeral expenses." The eggs, about 2.25 long by rather less than 1.90 broad, are roundish, one end a little smaller than the other, greenish-white, two dimly scratched and spotted with a purplish-brown, while all are more or

less sparingly marked with a muddy-brown, the latter coloring, in the case of the otherwise clear egg, seeming very like slight smirchings of dirt. On the whole, they are rather pretty. Another nest, taken a few days later, contained two eggs not quite so round, and having the dark-brown markings heavier and more numerous. The nest was similarly placed. In the latter part of March, of 1874, a nest was found in the top of a tall elm tree in the woods near Knowlesville. Two young men undertook to capture the Hawk. The one fired at the nest, and, holding his piece rather carelessly, found it sticking in the mud behind him; the other succeeded in taking the female bird on the wing as she left her eyrie. The male now sat on the eggs for a time, but was too wary to allow an approach within gun-shot, and left after a few days. In all of the above cases the birds seem to have raised their young in the same locality for a series of years.

The note of the Red-tailed Hawk, most commonly heard, as he sails high in the air, in the bright days of summer, and expressed, perhaps, by the syllables *k'shee-o, k'shee-o*, well drawn out, is rather harsh and squealing, but when uttered while the female cuts her grand circles above the nest, as it is being disturbed, it is even pathetic.

This bird may be found in Western New York throughout the year; and from the last of February or the first of March till late in autumn, it is our most common Hawk. Its habitat is all North America, and even Mexico and some of the West India Islands.

Similar in form to the above, but a little larger, and distinguishable by the "tarsus feathered in front for more than half its length," and by the four outer quills "incised on the inner webs," is that rare southern species—Harlan's Hawk (*Bufo harlani*). It is, however, a little larger, and appears darker. "General colors throughout, dark, sooty-

brown, with the wings, excepting tips of primaries, finely but irregularly barred with ashy-brown and whitish. The tail is mottled with ashy-brown, which becomes decidedly rufous next to the shaft of the subterminal portion of the feathers. Below, the feathers of the flanks and under the tail coverts are obscurely banded with ashy-brown. The basal two-thirds of the feathers on head, neck, all around, and breast to middle of body, are pure white." (*Maynard*).

This fine bird was first found in Louisiana by Audubon. As none were found for many years afterward, its validity as a species was doubted. More recently some half-dozen specimens have been found, some as far north as Pennsylvania, but more of them in Texas. It is now regarded as a well-defined species.

The Red-shouldered Hawk (*Buteo lineatus*)—male, some 19.00 long; female, 22.00—is nearly as long as the former species to which it is very closely related, but it is not nearly as heavy. Reddish-brown above the feathers, dark-centered, lighter shade of the same below, with narrow streaks of darker and bars of white, the blackish tail noticeably banded with white, shoulder of the wing orange-brown. Young, plain brown above, white below, dark-streaked. This species is every way similar in habit to the Red-tail. Very abundant along the Atlantic Coast and in the Atlantic States generally, it becomes rare already in the Maritime provinces, and is not common to the westward. It is either rare or overlooked in Western New York.

Swainson's Hawk (*Buteo swainsoni*), a northwestern species, breeding rarely in Illinois, and straggling to Montreal and Massachusetts, must be noticed here. The *male*, some 19.50 long, and 48.00 in extent, is dark-brown above, lighter on head, darker on wings, and ashy on tail, the feathers, especially on neck, more or less edged with reddish. Wings

and tail crossed with wary bars of dusky, the latter tipped with whitish. Concealed patch on back of head, white; sides white, barred with reddish and dark-brown; white beneath, tinged below the throat with reddish-yellow, the breast barred with reddish-brown; under wing coverts tipped with black. There is also a darker form. The *female*, some 20.10 long and 48.75 in extent, is similarly marked, but much darker. This species sometimes builds its nest in shrubbery.

The Broad-winged Hawk (*Buteo pennsylvanicus*) is a common eastern species. The *male*, some 15.25 long and 35.00 in extent, is brown above, the feathers edged with reddish; head and neck streaked with white; tail with a broad, reddish-gray band a little more than an inch from the tip, a narrow band of the same nearer the base, and tipped with same; under parts white, or buffy-white, broadly cross-banded and variously marked with light-brown. *Female*, an inch or so longer, and similarly marked. This fine little Hawk is generally distributed throughout the Eastern States in summer, and winters to the south. Its food is mostly the smaller birds and quadrupeds, which it captures for the most part among the bushes or on the ground. Like the rest of the *Buteos*, it is quite given to sailing in flight, but not in such grand, sweeping curves as those of its larger congeners. It is, perhaps, one of the most unwary of all our Hawks, and, with a little caution, may be approached quite closely. It nests in trees, constructing quite a bulky nest of sticks and twigs externally, and lined with leaves and shreds of bark. Generally an evergreen tree is preferred. The eggs, three or four, some 2.10×1.65 elliptical or roundish, are of a dirty white color, blurred or blotched with reddish-brown. Sometimes they are almost white.

CHAPTER VI.

VOICES OF SPRING.

I N the Middle States the entire month of March is a tempestuous conflict between the icy cold of winter and the power of a vernal sun. Yet even the first week of this month may have its days of genial warmth, when the earth, reeking from the relenting frost, woos the coming spring. Such is this third day of March, when lo! a voice salutes me, which is the very soul of tenderness. I can scarcely tell whether sadness or joy the more prevails in its soft warblings, so strictly is it in harmony with these unsettled days. It is the voice of the Bluebird (*Sialia sialis*). Appearing here the last week in February or the first week in March, the "color" of the sky "on his back" and the "hue" of the earth "on his breast," he may well inspire hope and courage in every heart. Who does not welcome the Bluebird? Like the sweet-scented trailing arbutus, which they called the May-flower, the arrival of the Bluebird cheered the fainting spirits of the first settlers of Massachusetts after a long and dreadful winter; and, associating him in some way with the Robin-redbreast of Europe, they called him the Blue Robin. Some 6.50-7.00 long, the upper parts of the male are a beautiful, bright, ultra-marine blue; throat, breast and sides chestnut-red; belly white. The female is similar, but more or less tinged with dull gray above. The young resemble the old, but, with a light fringed plumage above, are truly beautiful.

All through March, but especially through April, the bright colors and soft, clear warble of the Bluebird are inseparably associated with our landscape. The females, arriving some time after the males, about the middle of April, there is a modest courtship, resulting in pairing and immediate preparation for nesting. As the female first appears and alights on the fence, the males may appear one on each side of her, each vying with the other in attractive demonstrations. They raise their wings with a graceful, trembling motion, warble most significantly, and sidle towards her. Perchance she disdains them both, and as she flies away they both pursue her. A spirited contest between the males may now occur, or the female accepting the overtures of the one, the other will quietly retire. The mating over, the warbling grows more cheerful. Boxes, deserted Woodpeckers' holes, and natural cavities in posts, stubs, and especially about the trees of the orchard, or even an opening in the cornice of the house, are all explored, the female constantly leading, and the male attending with a great deal of gallant ceremony and music. *Cheerily, cheerily*, is his constant theme, with more or less variation, as the quiet and industrious housewife lugs in the various soft materials—mostly dried grasses—for bedding the nest. The eggs, from four to six, and about the size of those of a Bay-winged Sparrow, some $.85 \times .62$, are of a clear pale-blue. As soon as the young are able to fly, the male takes them in charge, and the female starts a second brood, and sometimes in like manner a third. During all this time their destruction of insects, which constitute their chief diet, is immense.

This season I had a good opportunity of watching the incubation of a nest made in the mortise of an old fancy post, the remains of a former fence in a front yard, the mor-

tise having been enlarged by decay. The nest was neatly made of dried grasses, and the five eggs were real gems. Incubation lasted about ten days. Another nest was made in the tool-box of a reaper, which had been left in the field from Saturday till Thursday, the lid of the box having been kept open by the handle of a wrench. The nest had been built in this short time, and one egg had been laid.

After incubation is begun the male becomes almost silent, and remains so during the summer. Some time in November the family groups leave for the south, having then a single plaintive note, wholly unlike the warble of spring, and quite as well in keeping with the gloom of autumn. The plumage now, too, is more or less mixed with a cold gray, thus making the harmony with the bleakness of nature the more perfect.

The Bluebird spends the winter in the Southern States, sometimes going even further south; and in its northern migrations goes scarcely beyond New England, in the northern part of which it already becomes uncommon.

From the eastern foot-hills of the Rocky Mountains westward to the Pacific are two closely-allied species called the Western Bluebird and the Rocky Mountain Bluebird, the latter being more common in the mountainous region indicated by its name. The former has the throat-blue, and a chestnut spot on the back; the latter, which is of a greenish shade, has the under parts similar to the upper, only lighter, fading into white on the belly.

THE ROBIN.

On this same 3d of March, so full of brightness and warmth, I meet the first Robins of the year. I hear their abrupt, vigorous, clear note before I see them. This note, though resembling that of various Thrushes, has a ring all

its own, and is in keeping with the bird itself, which, in every respect is energetic, hardy, plain and blunt. It is particularly his note of a beautiful spring evening, hence it has been designated his "evening call." If those most elegant songsters, the Thrushes, members of his own family, keeping so closely to the thick forests, and scarcely allowing the closest observer to get a glimpse of them while they sing, may remind one of people of refined and reserved habits, and "distant, high-bred ways," then surely the Robin must recall the inartistic manners of the more common people. His is the air of a vigorous, robust pioneer.

Though sometimes here by the latter part of February, and soon becoming one of the most numerous birds of the season, he gives hardly anything worthy to be called a song till near the first of April. Then his loud, clear warble, if somewhat monotonous and less expressive of sentiment than that of the Wood-thrush or the Hermit, is a most grateful breaking of the stillness of winter, a mitigation of sharp frosts and chill showers—April showers always tune him up—a never-failing promise of all the joy and plenty of the year. Then truly he makes "the outgoings of the evening and the morning to rejoice." What would an American spring be without the song of the Robin?

The ragged and faded appearance of the Robin in mid-summer, after the excessive cares incident to the rearing of two or three families, is but a poor apology for his modest but truly beautiful colors of dark-gray, black and golden-brown, in these days of early spring. Even Mrs. Robin, though not so dark and rich in tints as her consort, is a real model of plain and tasteful elegance.

The farmer or gardener, notwithstanding certain reminiscences of destruction of ripe cherries and luscious strawberries, cannot but be convinced of the friendship and co-oper-

ation of the Robin, as he sees him scouring meadows and pastures in search of insects in general. It would be impossible to estimate his labors in keeping in check the voraciousness of insect-life.

In this locality Robin's beautiful blue-green eggs, from three to five, may be laid already by the middle of April; the nest being a rough affair of stubble, coarse hay and mud, lined with finer hay, and placed anywhere between the ground and the top of a tree. The young resemble the old, except that the breast is pale and spotted with black and white. The parents are very noisy in defense of their nest or young.

Already in September the Robins begin to gather, with a great deal of hurry, and bustle, and noise, and, flying to and fro, in preparation for their southward migration, continue their leave-taking in companies till late in the fall.

On the bright October evenings of last year (1879), when the cloudless sky wore every tint of rose, violet, orange, yellow, and green, all most delicately shaded into each other from horizon to zenith, I used to lie down in the field and watch the Robins constantly passing south, with steady stroke of wing and high in air, sometimes singly, sometimes in pairs, sometimes in small companies.

Some 9-10 inches long; upper parts generally dark-gray; head and tail blackish; spots around the eye, under the chin and on the tips of the outer tail-feathers, and the vent white; breast and under parts golden-brown.

This bird is characteristic of all North America, and to the south extends a little beyond. In mild winters it may remain with us in sheltered places.

THE RED-BELLIED WOODPECKER.

It is the 5th of March, and I am in the woods on a most

sad errand. A dear friend, and in every way a most noble man, has been instantly killed by a falling tree, and, desirous to know every possible particular concerning the event,



THE RED-BELLIED WOODPECKER.

I am carefully studying the spot. Looking up into the tall tree-tops, whence came the fatal limb, my mind is, if possible, momentarily diverted by the sight of a bird seldom seen in this locality, or in any of the more northern districts, though it is said to be very common south of 35° . It is the Red-bellied Woodpecker (*Centurus carolinus*), the most beautiful of all the smaller species of its tribe in this locality. This is a fine male. Somewhat larger than the Hairy Woodpecker, some 10 long and 17 in extent, he has a broad strip of glossy crimson, extending from the bill

over the head and hind neck, the rest of the head, neck and under parts a beautiful light-ash color, with a tinge of red on the belly, whence the common name; the upper parts jet-black, with fine concentric lines and rows of spots of pure white; eyes red. The female differs mainly in the absence of the red on the top of the head, that mark extending only up the back of the neck to the occiput.

This bird has a hoarse note, resembling *chaw, chaw*, and has a nest and eggs like those of the rest of the Woodpeckers. It is a common resident throughout the year in Northeastern Ohio, where I have seen its nest about the middle of May.

CHAPTER VII.

THE BLUFF AND THE CAT-TAILS.

BEFORE studying the matter, it would not occur to one how different the plants and animals are the world over. Each individual has its particular locality or habitat. Sometimes, as in the case of certain species of Humming-birds, that habitat is a single island or mountain; again, as in the case of the Duck Hawk or Osprey, it is, in its various allied forms, nearly or quite cosmopolitical. Generally, however, great mountains and seas or changes of climate bound these habitats. For instance, in Eastern North America we have a certain set of birds, extending from the Atlantic Coast westward to the Rocky Mountains; but from this great mountain system, running north and south the entire length of the continent, to the Pacific Coast, there is found another set, generally more or less allied to ours indeed, but for the most part specifically different. Again, we have certain species peculiar to the northern, and others peculiar to the southern, latitudes; and between the plants and animals of the several continents, the difference is generally very great. What is true of space, in this respect, is still truer of time. In respect to the fauna of the various geological ages, the differentiation is indeed immense. But all these vast varieties of form are built on certain fixed plans of structure. The great classes, orders, and families have their representatives everywhere; and, while these types of

structure have been generally progressive in the order of time, in the lower forms of animal life there are some genera which seem to have stood almost from the first dawn of life to the present time. A careful bounding of the localities occupied by the various animals and plants constitutes the science of their geographical distribution.

In respect to the great class of birds, the whole world has its Owls, Hawks, Vultures, Sparrows, Shrikes, Starlings, etc.; but the species differs in different parts of the world.

THE RED-WINGED BLACKBIRD.

In the most typical sense the Starlings are confined to the Old World; but, by a little broader generalization, many birds of our own country may be included under that



THE RED-WINGED BLACKBIRD.

head. For instance, on this 7th of March, as I stand just south of a bluff, by the margin of a cat-tail swamp, I see a large flock of the so-called Red-winged Starlings or Black-

birds (*Agelaius phoeniceus*). They are sometimes here a week earlier, and are always partial to the cat-tails. Indeed, this species is strictly an ornament and appurtenance of the swamp. The male, somewhat smaller than a Robin, 8 or 9 inches long, is clad in a rich jet-black from tip to toe, except the shoulders of his wings, which are of a bright glossy-scarlet, with a margin of light orange. He is a strikingly beautiful object on this gray and naked landscape of the early spring. How spirited, too, he seems, as he steps and flits about, jerking his tail, uttering his familiar *chuck, chuck, chuck*, and every now and then adding his distinctive "*o-kal-ree-e-e-e-ee*," or "*lo-kal-o-ree-e-e-e-ee*." Until the arrival of the female, which may not occur for several weeks, he will appear exceedingly uneasy. About this time he will take some conspicuous position in the leafless trees or bushes, and spreading his wings and tail by a jerking motion, and waltzing back and forth, and bowing most gracefully, his wonted song becomes more liquid and clear, interspersed with an occasional rattling sound, ending in a loud, clear whistle. In color, the female is very unlike her mate. Of a rich dark-brown, each feather is margined with light-brown or brownish-white, the margins being broadest and lightest on the breast and underneath, thus making those parts appear noticeably lighter. The young male is similar to the female, except that the margin of the dark-brown feathers are ruddy, and the shoulders of the wings of a beautiful red, mixed with black. The young female is somewhat lighter than the mother. In the autumn, when the black plumage of the mature males is more or less fringed with light-brown, the whole family make a truly beautiful group.

Early in May the nest is built somewhere in or about a swamp, generally near the ground, but sometimes in a bush

or even in a tree; in my locality, for the most part, among the cat-tails. I found the nests very abundant on St. Clair Flats, built in the sedges over the water. It is a basket-like structure, composed outwardly of coarse, flexible materials—commonly the dried leaves of the cat-tails and sedges of the previous year—fastened near the base of the old stalks still standing, and lined with fine dried grasses, or occasionally with horse-hair. It belongs to the style of bird-structures called “basket-nests.” In this little swamp I have sometimes found a nest every few rods, or even every few feet. Then it is interesting to note the difference between the several sets of eggs. Frequently more than an inch long, they are often much less; now larger and quite pointed, and now roundish; the delicate tinge of green which makes the ground-color is darker or lighter; the markings, in the form of pen-dashes, dots and blotches, thick and heavy, or light and few, scattered over the entire surface, in a wreath near the middle, or in a bunch at the large end. These odd markings appear like the written symbols of some strange language. The Red-wings generally breed more or less in communities. As with the rest of the Icteridæ family, the male is not accustomed to take the nest, but is most assiduously attentive to the female during incubation. Sometimes two broods are raised in a season in this locality, the eggs of the first being laid in May and those of the second in July.

In spring and early summer the destruction of insect-life by the Red-winged Blackbirds is incalculable. Of this every farmer must be convinced, as he observes the flocks which search the pastures and plowed grounds. The breeding season over, they gather in immense noisy flocks, and are exceedingly destructive to corn and other grains; but, probably, in nowise counteract the good they do in the earlier part of the year.

On the winter history of this bird in the Southern States, Wilson has a very fine paragraph: "The Red-winged Starlings, though generally migratory in the states north of Maryland, are found during winter in immense, flocks sometimes associated with the Purple Grakles, and often by themselves, along the whole lower parts of Virginia, both Carolinas, Georgia and Louisiana, particularly near the seacoast, and in the vicinity of large rice and corn fields. In the months of January and February, while passing through the former of these countries, I was frequently entertained with the aerial evolutions of these great bodies of Starlings. Sometimes they appeared driving about like an enormous black cloud carried before the wind, varying its shape every moment; sometimes suddenly rising from the fields around me with a noise like thunder; while the glittering of innumerable wings of the brightest vermilion amid the black cloud they formed produced on these occasions a very striking and splendid effect. Then, descending like a torrent, and covering the branches of some detached grove, or clump of trees, the whole congregated multitude commenced one general concert or chorus, that I have plainly distinguished at the distance of more than two miles, and, when listened to at the intermediate space of about a quarter of a mile, with a slight breeze of wind to swell and soften the flow of its cadences, was to me grand, and even sublime. The whole season of winter that, with most birds, is passed in struggling to sustain life in silent melancholy, is, with the Red-wings, one continued carnival. The profuse gleanings of the old rice, corn, and buckwheat fields supply them with abundant food, at once ready and nutritious; and the intermediate time is spent either in aerial maneuvers or in grand vocal performances, as if solicitous to supply the absence of all the tuneful summer tribes, and to cheer the

dejected face of nature with their whole combined powers of harmony."

Habitat: "The typical form throughout temperate North America, and south to Central America. Breeds in suitable places from Texas to the Saskatchewan, and along the whole Atlantic Coast. Winters from about 35° southward." (Coues).

The Yellow-headed Blackbird is a western species, sometimes straggling eastward even to New England.

THE CROW BLACKBIRD.

The bluff above referred to is well clad with sumacs, dogwoods, elders, etc. Here, on this same 7th of March, but more particularly along the creek a few rods away, are small flocks of the Purple Grackle, or Crow Blackbird (*Quiscalus purpureus*). They fly slowly from one bush to another, from the bluff to the bushes along the creek, and then back to the bluff again, their tails, folded downward in the middle, being very conspicuous, and their constant *chuck, chuck* very like that of the Red-wing, only in a little hoarser tone and on a lower key. Like the latter, the former are quite partial to swamps and streams, but are not quite so confined to them, for they are frequently common about country door-yards and village lots, especially such as abound in evergreens. They are often abundant in cemeteries which are well ornamented with coniferæ. If cat-tails are to be associated with the Red-wings, evergreens are to be quite as much associated with the Crow Blackbirds. Often, indeed, they affect the shadowy recesses of the thickly-branched Lombardy poplars. As the plowman turns his furrow this bird forms a part of the newly-made landscape. Stepping along the fresh, brown ridges with a peculiar gracefulness, his brilliant hues, with a bright, metallic lustre, cannot fail to

delight the eye. Blue, emerald, purple, and bronze, all gleam and flash interchangeably in the sunshine. How quick are those light-golden eyes to detect grubs, beetles, chrysalids and worms! The male being about 12 inches or more in length, the female is a good deal smaller, and for the most part of a plain black, being wholly without the lustre and changeableness of the male. In early spring they often gather in quite large flocks, chattering and whistling in a manner thoroughly noisy, if not somewhat musical.

Their nest—made early in May, if not already in April, and a rather bulky structure of sticks and coarse hay, more particularly the latter, often cemented with mud, lined with fine hay and some horse-hair—is placed either low or high in a tree, an evergreen or Lombardy poplar being preferred; and if the tree is large, it may contain a number of nests. Wilson says: "A singular attachment frequently takes place between this bird and the Fish Hawk. The nest of this latter is of very large dimensions, often from three to four feet in breadth, and from four to five feet high; composed, externally, of large sticks, or fagots, among the interstices of which sometimes three or four pairs of Crow Blackbirds will construct their nests, while the Hawk is sitting or hatching above. Here each pursues the duties of Incubation and of rearing its young; living in the greatest harmony, and mutually watching and protecting each other's property from depredators." In the south Audubon says the nests of these Blackbirds are generally placed in holes of trees—often in a deserted Woodpecker's nest. The same manner of nesting has recently been reported from some parts of the north.

The eggs of the Crow Blackbird, some $1.20 \times .82$, and four or five in number, are generally greenish, sometimes

brownish, or of a dirty white, specked, spotted, scratched and blotched, sometimes thickly, sometimes sparingly, with light brown, or black. It seldom raises more than one brood here.

As to this bird's destructiveness in the corn-field, every one has heard and seen enough. Hence the merciless slaughter which he meets, and the dangling of his dead body *in terrorem*. But if we are not to "muzzle the ox that treadeth out the corn," let us take heed, lest we grudge the Blackbird his corn unfairly. Some of the late ornithologists, however, affirm that this bird, a near relative to the Crow in habit as well as in appearance, is given to sucking other birds' eggs and eating their young. If this be generally proven against him he will smell more gunpowder than ever before.

The Crow Blackbirds find their winter residence in the Southern States. "Here," according to Wilson, "numerous bodies, collecting together from all quarters of the interior and northern districts, and darkening the air with their numbers, sometimes form one congregated multitude of many hundred thousands. A few miles from the banks of the Roanoke, on the 20th of January, I met with one of those prodigious armies of Grakles. They rose from the surrounding fields with a noise like thunder, and, descending on the length of road before me, covered it and the fences completely with black; and when they again rose, and, after a few evolutions, descended on the skirts of the high-timbered woods, at that time destitute of leaves, they produced a most singular and striking effect; the whole trees for a considerable extent, from the top to the lowest branches, seemed as if hung in mourning; their notes and screaming the meanwhile resembling the distant sound of a great cataract, but in more musical cadence, swelling and

dying away on the ear, according to the fluctuations of the breeze."

Habitat: Eastern North America, north to Labrador, west to the Rocky Mountains, breeding throughout its range. I saw none in Manitoulin Island and vicinity

As to the so-called Bronzed Grakle (*Quiscalus purpureus æneus*), now differentiated by some, and supposed to breed a little further north than the last described, I have had no opportunity of discriminating. If, indeed, it be different from the Common Crow Blackbird, it must be very similar.

The Boat-tailed Grakle of the south (*Quiscalus major*) is scarcely more than the former on a larger pattern. About 16.00 long, it is about one-fourth larger, and its habits are very similar. The flight is slow, straightforward, the heavy boat-shaped tail seeming to tip the bird up in front. It is noisy, and partial to the vicinity of water, often wading for its molluscous diet. Its nests, which are in community after the manner of its congener here and also its corvine relations in the old world, is sometimes placed in a bush or tree, but commonly in the tall saw-grass of the southern marshes. The structure is large and coarse, is tied to the grass-stems about four feet from the ground, and generally contains three eggs, similar to those of the Crow Blackbird, but larger—about $1.27 \times .85$. It winters in the extreme Southern States, and reaches regularly the Carolinas in summer.

THE CEDAR BIRD.

On the top of the bluff stands the first row of trees of a large orchard. On one of these alights a flock of birds, sometimes found here in small numbers even in winter, but always appearing in flocks very early in spring. There are some forty of them, and they move with the regularity of a perfectly disciplined army, flying as compactly as pos-

sible, and all having precisely the same motion, and alighting so similarly that the attitude of one is the attitude of the whole flock. Few things in the movement of bird-life are more interesting than this perfect uniformity of motion of a group of Cedar Birds (*Ampelis cedrorum*), as if one life directed them all. How spirited and graceful they are! Some six or seven inches long, slender, beautifully crested, the plumage remarkably blended and glossy; in color, a rich brown, becoming reddish on the breast and about the head; chin, forehead, and band across the eyes to occiput, black, partly margined with a line of white; belly, yellow; under tail coverts, white; wings, rump and tail, bluish-drab; darker toward the end of the tail, which is margined with bright sulphur-yellow; secondaries, generally tipped with flattened appendages, the color of bright-red sealing-wax. The female is similar to the male, and the young differ but little. Occasionally an old male is found with red, wax-like tips on the tail feathers, or even on some of the feathers of the crest.

As I watch the flock in the bright, warm sunshine they become more careless in attitude and motion, and presently become fly-catchers, making little circuits after their prey, and seeming rather drowsy, for them. This fly-catching is quite indicative of their habit in part; for despite their frugivorous propensities, they destroy no small number of insects at certain seasons of the year, especially the larvæ of the Canker Worm.

Watch these same Cedar Birds in some secluded dell affording a rocky stream—watch them in the delicious quiet and ruddy glow of the evening. How gracefully they alight on the larger rocks rising above the surface of the water; and, standing almost straight, with crests erect, how noiselessly they describe their elegant circles in the

midst of clouds of gnats and midges. You hear no snapping of the bill, as in the case of Fly-catchers similarly engaged, but each little detour signifies the destruction of one or more of these tiny insects.

This imitation of the Fly-catchers the farmer will scarcely admit, as he recalls the more destructive habits of this bird, how he appears singly, or in large numbers, on the sweet cherry-tree of early summer, pilfers blackberries and raspberries, strips the rich, ornamental clusters from the mountain ash; in short, fills himself with fruit to the very throat, even dropping and dying, in some cases, of sheer gluttony—all this without the least apology for a song—nothing in the way of a note but a sly *tseep, tseep*, scarcely loud enough to be a warning to the ordinary ear—nothing, in short, to recommend him but his graceful carriage and fine clothes, unless, indeed, the ornithologist can vindicate him as a “fly-catcher” and “worm-eater,” and so secure a balance of sentiment in his favor. This vindication we believe to be possible. At any rate, as a beautiful ornament in nature, he is entitled to some support, especially by those who regard “a thing of beauty a joy forever.” I never could justify a certain old gentleman of my acquaintance who shot eighty of these “orchard beauties” from a single sweet cherry-tree in a few hours. I would rather have set out more cherry-trees.

Strange to say, though this bird is here among the first, and in large flocks, some few even remaining through the winter, it does not ordinarily begin a nest till late in June or in July, perhaps because the favorite fruits on which it feeds its young, after a course of insects in their earliest babyhood, are not sooner available. This nest is generally in a tree in the orchard, and is rather bulky and coarsely built for so trim a bird, being composed outwardly of small

sticks and coarse grasses; inwardly, of sprigs of larch, fine, dried grasses, or horse-hair, quite a little wool, or vegetable down, being occasionally used, or even a large quantity of fine rootlets. The eggs, 4 or 5, some $.82 \times .62$, are light-green, or dingy white, specked and spotted with dark purple and black.

I once found a young one, full-grown, held to the nest by a horse-hair, which had grown into the foot. It had the waxen tips on its wings, showing that this peculiarity is not wholly a matter of age.

CHAPTER VIII.

ALONG THE CREEK.

“DO you know that the Wild Geese are here?” inquired a friend of mine at Oak Orchard Creek, on the evening of the 16th of March. “I fired into a large flock in the wheat-field to-day and killed two.”

“Indeed! I am aware that they are quite destructive to the wheat-fields for some four or five weeks in early spring, all along the south of Lake Ontario,” I replied.

The Canada, or Common Wild Goose (*Branta canadensis*), is the one referred to; and the two specimens, male and female, are now mounted and before me in my study. The male is some 38 inches, and the female some 34 inches in length, thus appearing considerably larger than the common domestic Goose. The general color is a rich, dark-gray, the plumage edged with lighter; bill, head, neck, lower back, tips of wings, tail, and feet, black; patch across the throat and up the sides of the head, and sometimes the upper breast, grayish-white; vent and coverts at the root of the tail, pure white.

There is not a more characteristic bird in all North America. Moving northward in large, noisy flocks in spring, and southward in a similar manner in autumn, it is the sure herald of the departure of the Ice King, as well as of his return. Who does not know of the Wild Goose?—that it is the most sensitive of all our animated nature to

the great changes of temperature about to take place; that it is surely an evil omen, in the dubious days of spring, to see it retracing its course southward. The beautiful military order of the flight of these birds—how, under the direction of some accepted leader, they move now in form of a straight line, now in the manner of an angle of variable degrees, every now and then some of them changing positions, that the stronger and fresher may take its turn in clearing the air, while the weaker and more weary take the advantage of the wake—must be familiar to all who have at all observed these grand movements. The confused “hanking,” “clanging” notes, too, which seem almost to keep time with the beat of wings, must be equally familiar.

In Western New York, at present, the Canada Goose is simply a migrant, except as it “occasionally nests at large in the United States” (Coues), where in former times its nidification was common. (Audubon.) These birds come in flocks from the south into our lake counties of Western New York soon after the middle of March, and remain with us some 4-6 weeks. During this time they may be seen almost constantly riding on the water near the shores of Lake Ontario. At day-break, and again in the afternoon, they fly inland to feed in wheat-fields on the tender, succulent blades, or in the richer meadows. On leaving the lake they are silent, but fill the air with their clangor on returning. By the utmost vigilance a few are shot; but they generally alight on some eminence where there is a good outlook in every direction, and some wary gander is constantly on the alert.

The Canada Goose breeds more or less commonly in Labrador and to the northward. Mr. James Fortiscue says of their breeding about York Factory, Hudson's Bay: “Hatch everywhere, up in woods and swamps; nests made of sticks and hay, lined with feathers.”

In the extreme Northwestern States it is said to breed in trees. It is now known to breed abundantly in the Northwest Territory, especially along the Assiniboin River with its many tributaries. It usually makes its nest on the ground, near some stream or sheet of water, often on secluded islands in larger rivers. One nest found by Audubon "was placed on the stump of a large tree standing in the center of a small pond, about twenty feet high, and contained five eggs." The same author says: "The greatest number of eggs which I have found in the nest of this species was nine, which I think is more by three than these birds usually lay in a wild state." Again: "The eggs measure, on an average, 3.50×2.50 , are thick-shelled, rather smooth, and of a very dull yellowish-green color. The period of incubation is twenty-eight days. They never have more than one brood in a season, unless their eggs are removed or broken at an early period. The young follow their parents to the water a day or two after they have issued from the egg, but generally return to land to repose in the sunshine in the evening, and pass the night there under their mother, who employs all imaginable care to insure their comfort and safety, as does her mate, who never leaves her during incubation for a longer time than is necessary for procuring food, and takes her place at intervals. Both remain with their brood until the following spring. It is during the breeding season that the gander displays his courage and strength to the greatest advantage. I knew one that appeared larger than usual, and of which all the lower parts were of a rich cream-color. It returned three years in succession to a large pond a few miles from the mouth of Green River, in Kentucky, and whenever I visited the nest it seemed to look upon me with utter contempt. It would stand in a stately atti-

tude until I reached within a few yards of the nest, when, suddenly lowering its head, and shaking it as if it were dislocated from the neck, it would open its wings and launch into the air, flying directly at me. So daring was this fine fellow, that in two instances he struck me a blow with one of his wings on the right arm, which, for an instant, I thought was broken. I observed that immediately after such an effort to defend his nest and mate, he would run swiftly towards them, pass his head and neck several times over and around the female, and again assume his attitude of defiance."

The same author says: "It is extremely amusing to witness the courtship of the Canada Goose in all its stages; and let me assure you, reader, that although a gander does not strut before his beloved with the pomposity of a Turkey, or the grace of a Dove, his ways are quite as agreeable to the female of his choice. I can imagine before me one who has just accomplished the defeat of another male after a struggle of half an hour or more. He advances gallantly towards the object of his attention, his head scarcely raised an inch from the ground, his bill open to its full stretch, his fleshy tongue elevated, his eyes darting fiery glances, and as he moves he hisses loudly, while the emotion which he experiences causes his quills to shake, and his feathers to rustle. Now he is close to her who, in his eyes, is all loveliness, his neck bending gracefully in all directions, passes all around her, and occasionally touches her body; and as she congratulates him on his victory, and acknowledges his affection, they move their necks in a hundred curious ways. At this moment fierce jealousy urges the defeated gander to renew his efforts to obtain his love; he advances apace, his eye glowing with the fire of rage; he shakes his broad wings, ruffles up his whole plumage, and

as he rushes on the foe, hisses with the intensity of anger. The whole flock seems to stand amazed, and opening up a space, the birds gather round to view the combat. The bold bird, who has been caressing his mate, scarcely deigns to take notice of his foe, but seems to send a scornful glance towards him. He of the mortified feelings, however, raises his body, half opens his sinewy wings, and with a powerful blow, sends forth his defiance. The affront cannot be borne in the presence of so large a company, nor indeed is there much disposition to bear it in any circumstances; the blow is returned with vigor, the aggressor reels for a moment, but he soon recovers, and now the combat rages. Were the weapons more deadly, feats of chivalry would now be performed; as it is, thrust and blow succeed each other like the strokes of hammers driven by sturdy forgers. But now, the mated gander has caught hold of his antagonist's head with his bill; no bull-dog could cling faster to his victim; he squeezes him with all the energy of rage, lashes him with his powerful wings, and at length drives him away, spreads out his pinions, runs with joy to his mate, and fills the air with cries of exultation."

D. H. Bunn, a man well capable of telling what he sees, reports the following incident, as occurring in Madison County, New York, some twenty years ago: During a night of thick fog in early spring, a flock of geese passing over, twenty-five of them struck against a large factory. Lodging near by, he heard the blow, roused his companions, and they went out with lanterns. In a sort of alder-swamp, on that side of the building which the birds had encountered, they found the stunned and disconcerted creatures hanging entangled in the alders, or splashing about the water; and after being well pinched and bitten, and soundly thumped by their powerful wings, the party succeeded in capturing them.

The Canada Goose spends the winter in large flocks, in the middle and more southern portions of our continent. A variety of this same species, called Hutchin's Goose, is sparingly found to the eastward, and is very abundant in the northwest. Mr. Fortiscue thinks there are not less than four closely-allied species of this kind of goose at Hudson's Bay.

THE MALLARD.

March 17th, on a bright sunny morning after a light fall of snow, I wandered along Oak Orchard Creek—a purling stream some three or four rods in width—and found the Mallard (*Anas boschas*), and the Dusky or Black Duck (*Anas obscura*), in considerable numbers. The former—a bird of the stream and lake rather than of the sea—is found very sparingly in New England and immediately to the northward, but plentifully from New York southward, especially in Florida, in winter; and it is abundant in the far northwest in summer. As it moves smoothly and gracefully along the quiet stream, or rises in flight, or more especially as it almost hovers overhead in the presence of danger, it is a truly beautiful object. The rich glossy-green of the neck of the male, his yellow bill and legs, the rich vinous-brown of his breast, and the gray of his under parts, the pure white tail of gracefully-pointed feathers, ornamented by the recurved upper tail coverts of glossy-green or purple, are simply resplendent in the bright morning sun, so intensified by the reflection from the pure sparkling sheet of snow. As he is brought down, so that one can examine the deep black of the lower back, the delicately-penciled gray of his shoulders, scapulars and tertiaries, all set off by his dark wing with its beauty spot of green or violet margined with black and white, one concludes that his brilliancy is scarcely surpassed by anything on our waters. He seems by con-

trast to be more complete, too, when by the side of his female of plainer beauty—her plumage being rich brown margined with lighter, chin and throat whitish, beauty spot nearly as in the male. “Nearly cosmopolitan, and nearly everywhere domesticated,” breeding more or less sparingly throughout the United States, and more particularly to the north, the Mallard mates in winter and in early spring; and builds a nest of coarse materials in the marsh, lining it, if far north, with down from its breast so plentifully that the eggs, some eight to a dozen, and of a delicate or sometimes dingy greenish-white, can be covered with the same on leaving them.

On St. Clair Flats, where I found the Mallard breeding quite commonly, the nest, which might be built in the sedges over the water, but more commonly on a knoll or against a log in the flooded marsh or among the bushes on the highest ridges, never contained much down. If the number of eggs were incomplete, or they were fresh-laid, and therefore the entire nest as yet imperfect, there was no down at all. The elegant green tint is quite peculiar to the egg of this Duck.

Unlike the Geese, but like other Ducks and the Mergansers, as well as some other water-birds, the male now leaves the female to care for her eggs and her young family alone, while he, along with other heartless husbands and fathers of the same kind, spends the remainder of the breeding season in leisurely roaming, unless, indeed, the female lose her nest, and then she goes in search of the male.

The female meanwhile is most signally faithful to her charge. She will remain on the nest till almost trodden upon, and then often alighting near by, will stretch out her neck, spread her tail, and flap her wings on the water, in a manner equal to the arts of the little Waders when similarly disturbed.

“I have found the Mallard,” says Audubon, “breeding on large, prostrate and rotten logs, three feet above the ground, and in the center of a canebrake, nearly a mile distant from any water. Once I found a female leading her young through the woods, and no doubt conducting them towards the Ohio. When I first saw her she had already observed me, and had squatted flat among the grass, with her brood around her. As I moved onwards, she ruffled her feathers, and hissed at me in the manner of a goose, while the little ones scampered off in all directions. I had an excellent dog, well instructed to catch young birds without injuring them, and I ordered him to seek for them. On this the mother took wing, and flew through the woods as if about to fall down at every yard or so. She passed and repassed over the dog, as if watching the success of his search; and as one after another the ducklings were brought to me and struggled in my bird-bag, the distressed parent came to the ground near me, rolled and tumbled about, and so affected me by her despair that I ordered my dog to lie down, while, with a pleasure that can be felt only by those who are parents themselves, I restored to her the innocent brood and walked off. As I turned round to observe her, I really thought I could perceive gratitude expressed in her eye; and a happier moment I never felt while rambling in search of knowledge through the woods.”

The voice of the Mallard, and its manner of feeding by immersing its head and neck, or by tipping perpendicularly half out and half under the water, are so well illustrated by the domestic Duck as to need no explanation here. Suffice it to say, this is one of those members of the animal creation which have ministered incalculably to the comfort and support of man.

THE DUSKY DUCK.

Screened by a small hemlock on the bank of the creek, I have a good view of a flock of some dozen Dusky, or Black Ducks, as they fly up the stream. They are very large, and look quite dark, except the under side of the wings, which is white, and which gives a fine effect in flight. How great the rapidity and momentum of that flight is we have but little idea, till the bird, ceasing the rapid strokes of its wings, and bending them downward like the arcs of a circle, prepares to alight. Then that smooth body, with outstretched head and neck, and wings which cut the air like sabers, like a huge arrow rushes through the air; and it must sail some distance before the force of its momentum is sufficiently spent to allow it to reach the earth in safety.

A few rods above me these Ducks drop gracefully down, striking the water so easily, and parting it with such a pretty plash, as to impress me with the beauty possible to motion, and with the tranquil happiness of these creatures in their undisturbed haunts. The stream being shallow, they can easily reach their food by plunging their heads, in which act they throw up their feet and hinder parts in a manner quite amusing. They plunge, dart around in a hurry-skurry manner, straighten out their necks and flap their wings, thus seeming to sit almost on their tails on the water; and, finally getting a glimpse of me, they rush out of the water into the air with a splashing that brings me to my feet; and I fire, bringing down a fine pair, which I readily secure as they float down stream by wading in with my long rubber-boots. About two feet long, of a dark brown, the feathers edged with lighter, the beauty spot a rich violet, the male and female about alike, this species cannot easily be mistaken. It is by far the most common Duck in this locality, being really abundant in the migra-

tions, and quite a few remaining to breed in suitable places. When passing north in spring, sometimes in single pairs, sometimes in groups of pairs, they seem to tarry for a few weeks, selecting certain feeding grounds—shallow pools and ditches about the fields—to which they attend regularly, unless seriously disturbed. Like the Mallards, they are particularly Ducks of the ponds and the puddle-holes. Here, by proper caution in the use of some screen, they may be easily shot, especially about day-break. These Ducks, as also the Mallards, are occasionally seen in enormous flocks in early spring on submerged grain-fields of the previous year, in the vicinity of Tonawanda Swamp, a large territory extending along the southern border of this county (Orleans), and many miles beyond.

On the 7th of last April (1881), the Ducks flew in great numbers in these flooded regions. I was watching them from a retired point of view. They flew mostly in pairs, and were nearly all of the species I am now describing. I noticed that they all made for a certain corner of a flooded field which was nearly surrounded by a forest. They would fly in grand circles around it and at a considerable height for some time, and having thus thoroughly surveyed the ground, would sail with down-curved wings till the great momentum of their speed was broken, and then drop down gradually, holding the body in an oblique position, and flapping the wings forward just as a bird does in hovering, thus alighting easily and gracefully. Being curious to see the place of rendezvous, I crept stealthily around to one side of it, but before I could get within gunshot the Ducks rose *en masse*. There must have been many hundreds, and the noise of their wings was like the roll of thunder. I hid behind the fence, thinking they might return; but these Ducks are very shy, and gave me no

opportunity for a shot that evening. I watched for them the next morning before daylight, but it had frozen hard, and they had all disappeared. Where had they gone? I went to Lake Ontario the same day, but could not find them.

Being on the ground again a week later, and being curious to know where the Ducks spent the night, I was advised to push my boat into a flooded region of a thick second growth of varied trees and bushes of the lowlands, about sundown, and watch their movements. As the rosy tints of sunset were fading out of the sky, the Ducks, nearly all of the kind now under review, began to circle over the spot; and every now and then a pair would drop down after the manner of alighting above described, and with a sharp flutter and rustle of the wings, reach the water with a heavy splash. They continued to come until dark, large numbers thus spending the night floating on these quiet waters in the security of the trees and the bushes.

Before day the next morning I was at the favorite rendezvous where I had seen so many Ducks the week before. As the cold sky of the night began to assume the soft golden hues of the coming morning—a change which takes place quite suddenly—the Ducks began to arrive. This time there was none of that cautious reconnoitering of the place, which is common to these birds at other times of day. I could hear them squaking, without any reserve whatever, some time before they reached the spot, and as they arrived, they immediately dropped down in their fluttering, rustling manner, the sound of which, coming so near my screen by a tree in the open field, had a very exciting effect upon me in this deep light of the morning. To watch their sprightly and happy movements in this state of perfect freedom was well worth all the inconvenience of rising early, walking far and shivering in the

cold. As the morning light became clear, I could see a pair of Mallards in the crowd; the rest were all Dusky Ducks. None, however, were near enough for a shot; and as the light intensified, and my screen was noted as a new addition to the landscape, on a slight squaking signal by one especially on the alert, they all left with a rush.

On the 22d of last September I was at Lake Ontario. The Dusky Ducks were there in immense numbers. Through the glass I could see a flock of several hundreds a few miles out from the shore. They sat on the water, as the hunters say, in great windrows. The lake was smooth, but there was a gentle, undulating motion of the water; and the whole flock, with here and there a sentinel on the alert, were resting with their bills under their scapulars, as if asleep. The glass was powerful, bringing the birds immediately before me; and the sight was as serenely happy as one could wish to see in the varied and delightful domain of nature. Presently one of the crowd yawned and stretched itself upright, and flapped its wings joyously on the water, and all followed the example, making a great fluttering cloud of darkness on the gleaming surface. Now they began to shoot about among each other in a most hurried manner, as regularly, however, as men and women would cut figures in a dance, and thus making one of the most spirited and gleeful impressions. Then they would all quiet down again, and ride gracefully on the gently moving waters, their heads drawn closely on their breasts, as if in the most complete repose.

Like the Mallard, the Dusky Duck feeds on small mollusks, roots, and grain, and will not disdain a lizard or a mouse; and, like the Mallard, it is particularly a fresh-water Duck, though it is not infrequently found about the borders of the ocean.

Never shall I forget my childish glee on finding a flock of these Ducks just hatched, following the mother in the woods near a wild meadow. They were a dark olive, almost black on the head and back. The old Duck seemed quite tame, and the little ones did not try very hard to escape. Filling my hat with them, I hurried home, but was soon obliged to hurry back, as my mother did not approve of my enterprise.

A few months ago (1883), while visiting the old paternal farm, I was again diverted by a flock of these same young Ducks. The female rose from a mud-hole in the wild meadow with a great splutter; and, standing still, I began to look about me for the young. For some time I could see nothing of them, they were so nearly the color of the mud and the drabbed grass. By and by my eye caught one which must have been fully ten days old, sitting perfectly motionless in the water, which filled a cow's track in the mud. Looking a little to one side I saw two more snuggled together in a like dish of water, then another and another, and still another—all sitting so motionless that I do not think they even winked. Thinking that I had looked at them long enough I stepped forward, when, two more starting up, they all hurried away helter-skelter into the bushes.

The Dusky Duck ranges through Eastern North America to Labrador, and, breeding more or less throughout, but more especially to the north, is strictly an American species. The nest, built on the ground, generally near the water, sometimes in a tussock of grass, sometimes sunk into the moss, or even placed on a moss-covered rock or on the top of a decayed log, is composed of dried grasses and various vegetable substances, the edge being well surrounded with down and feathers if incubation be well advanced, and so the nest complete, thus giving it a peculiar, dark appearance.

The eggs, some eight in number, are about 2.38×1.37 , very nearly the size and shape of a common hen's egg, the surface being of an opaque smoothness, and of a uniform brownish tint, sometimes, indeed, of an elegant greenish, or even reddish shade, the fresh egg seeming fairly translucent. Generally, however, the eggs, like those of the Ducks in general, are much soiled and disfigured from the bird's entering the nest directly from the riled water and the mud.

THE SONG SPARROW.

The sun is now well up, and the thin sheet of snow is melting rapidly. There is such a mingling of spring warmth and winter sunshine as makes the day particularly bright and suggestive. The reflection of every ray of the clearest sun by the clean sheet of new snow so intensifies the light that it seems as if a diffused lightning had become fixed — as if the very atmosphere were transfigured. Every breath takes in a reeking moisture, the air vibrates on the hills as in summer heat, and the rippling and purling of the stream is hurried and full. The earth will come out of this snow as from a warm bath, everything freshened and quickened as by a summer rain. All along the flats about the creek, from the clumps of bushes, from the thickets, and from the edges of the forests, come the loud and ringing notes of the Song Sparrow (*Melospiza melodia*). Except the creaking melody of the Horned Lark, heard fully a month earlier, or possibly the simultaneous warbling note of the Bluebird, this is our first noticeable bird-song of the year. On the most disagreeable days of late February or early March, when the air has that peculiar chill caused by the slow melting of snow and ice, or a rain is falling barely above the freezing point, the clear, strong vibrations of this melody are as cheerful as in the most genial days of

spring. They sound like a sudden outburst of joy in the midst of the universal bleakness of a winter's day—like something out of its time—a melodious prophecy of the joys of spring so near these last days of winter.

We may sometimes find the Song Sparrow in a sheltered place here, even in winter, and hear him lisp a faint warble from near the ground, but his full song is reserved till this approach of spring. The clear strokes, twitters, and trills of this song are especially musical and inspiring on this bright, still morning. They have the whole vibrating capacity of the atmosphere to themselves, without even the rustling of a leaf or the humming of an insect to counteract them. Commencing with several long and peculiarly resonant notes the bird continues in a twittering warble, and ends with several notes longer and more resonant than the first, the whole being in a tone so loud and penetrating that one cannot but marvel at the capacity of those tiny lungs, scarcely larger than a small bean. But the vocal apparatus of birds, and of song-birds in particular, is very remarkable. The larynx, highly complicated in structure, is at the lower end of the trachea, or windpipe, being also connected with the upper part or fork of the bronchial tubes; and the muscles connected with it, only one or two pairs in ordinary birds, in song-birds, are no less than five pairs. These muscles may change the relative positions of the cartilaginous rings or half-rings connected with the vocal organ; or they may lengthen or shorten the trachea, thus giving the effect of tubes of different lengths in a pipe-organ, or they may modify the tension of the trilling membrane and other membranes of the vocal organ itself. Also the arytenoid cartilages at the upper end of the trachea may open or partially close the air passage, and so modify the sound something after the manner of the knee-swell of a common

parlor-organ. All these vocal contrivances are greatly aided again by the air-cavities and passages pervading the interior of the body, the muscles and the bones. The delightful qualities of tone, and the variations of melody which are thus made possible to the sylvan songster, must fall on the ear of a genuine lover of music to be fully appreciated. Truly nature has concentrated the energy of the song-bird in the vocal powers as well as that of birds in general in the wing. Song, that high endowment of a portion only of the human race, is the peculiar and fascinating gift of certain birds, thus placing them not only above all others of their kind, but above all the rest of animated nature.

How often throughout the season have I felt the cheering influence of the melody of a Song Sparrow as it sang regularly in the apple-trees near my study-window! Many a performance by the human voice have I heard, far less significant and entertaining than this spirited pastoral. The song of this species varies greatly in different individuals, and I have sometimes thought that it varied greatly in different and distant localities. On going into the higher regions of our Great Lakes, for instance, I have suspected the melody of the Song Sparrow to be that of some other species, until I had thoroughly assured myself. Ordinarily, the song has a peculiar, vibrating tone, making one think of a tremulous reed or chord; but often the more prolonged notes are decidedly tintinnabulary, as if the bird carried a tiny bell in its throat, and struck off its tones in the most delicate and pleasing manner. The order, again, of the long notes and the short ones in the melody may be endlessly varied. Well, indeed, has this interesting species been called the Song Sparrow.

In autumn, even, especially in the balmy days of Indian Summer, one may hear its lay—not so loud and penetrat-

ing as in spring, indeed, but in a subdued and tender modulation, peculiar to the time of year. One of our commonest birds, found anywhere from the door-yard to the forest, rather partial, however, to thickets, the Song Sparrow is the useful ally of man against the insect-tribes, and a happy minstrel to cheer him in his toils.

Already in April this bird builds its first nest, a second following as soon as possible, and perhaps a third. Thus the breeding season continues to the end of summer. I have seen the eggs fresh the last days of August, and the young in the nest in September. The nest is usually on the ground, and well sheltered by some projecting object—a bush, a tussock of grass, a root, or a hummock of earth; but it may be in a bush, or in a hedge, or even in a broken dish. In the latter part of the season the nests are much more frequently up from the ground—in a hedge or in a bush—than in the early spring, perhaps because the birds thus seek to escape the disturbances of cultivation—haying, harvesting, and the grazing herds of the pasture. The nest is composed for the most part of dried grasses, and is often lined with horse-hair. The eggs, from $.77 \times .55$ – $.85 \times .60$, vary greatly in color and in marking. The ground-color is a greenish, or bluish, or grayish-white. The marking, generally very thick and heavy, is of some shade of brown, traced with lilac. There is sometimes a single egg in a set, of a delicate green, and almost spotless. I know of no eggs which vary so greatly in color.

I do not so frequently find the Cow Blackbird's eggs in this nest as in that of other small birds in general. The Song Sparrow is quite excitable when its nest is disturbed, and emits a peculiar *chimp, chimp*, unlike the alarm note of any other bird, yet it has sometimes the *chip* peculiar to other Sparrows.

This species, composed of some half-dozen varieties, covers North America. Our eastern variety (*Melospiza melodia*), wintering from Southern New England and the Middle States southward, and extending north to the latitude of Nova Scotia, is some six inches or more in length, and has the marking and color common to all our Sparrows. It is distinguishable to me, however, by its general reddish tinge of brown, especially by its long crown tail, by the heavy dark spots on its dull white breast, and more especially by the heavy dark streaks from the base of its bill down its cheeks and neck.

Belonging to the same *genus* with the Song and Swamp Sparrows, is Lincoln's Sparrow (*Melospiza lincolni*). Some 5.50 long, it has the colors and markings of the Sparrows in general above; throat and belly white, with a broad, brownish-yellow band across the breast, the throat, breast and sides being specked and spotted with brown and black. In habit, nidification, etc., this bird is very similar to the Song Sparrow. It is found in the migrations throughout North America, being rare to the eastward, but abundant in the west and northwest. Audubon found it breeding in Labrador, and its nests are found in great abundance about Great Slave Lake and Yukon River. Mr. Bruce saw it in a thicket by Lake Ontario, on the 17th of May (1880), in company with the White-crowned and White-throated Sparrows.

THE PURPLE FINCH.

As I return to the village about noon I am greeted by the Purple Finch (*Carpodacus purpureus*), which has already been here in full song for a week. The size and general shape of one of the larger Sparrows, its head is a dark crimson; rump, breast and under parts of the same, but much lighter, the latter becoming white underneath;

feathers of the back and the wing coverts, deep dusky, edged with crimson; wing and tail-feathers, dusky-black, edged with light-brown. The female, strongly resembled by the male for the first two years or more, is nearly the color of a Song Sparrow. From early spring till late summer this is one of our most delightful songsters. Lifting itself up to full length with elevated crest, its voluble rich tones—strongly resembling those of the Warbling Vireo, only more rapid and spirited—fairly gurgle in its throat to the very end of the lengthy strain. In the sunny days of the mating season it has quite a variety of short, spirited notes, such as *pick-wee, wee-ree, wee-ree-ée*. Then, too, it launches into the air, and with crown-feathers erect, tail partially thrown up, and a vibrating of wings rather than real flight, gives its finest melody.

With much demonstration does the male win his plain mate. Never shall I forget how I once saw him perform on a fence-rail between me and the setting sun. Straightening up to full length in front of his spouse, his wings vibrating almost like those of a Humming-bird, his crimson crest all aflame in the slanting rays of rosy light, he poured forth his sweetest warble.

The following note from Mr. Eugene Ringueberg, of Lockport, is in place here: "While out in a grove of ever-greens near the house this morning (April 30th), I saw two male Purple Finches chasing a female in and out among the trees. She flew around for three or four minutes, only alighting once in a while to rest, closely pursued by the males, singing as hard as they could nearly all the time. At length, however, she lit on the branch of a beech-tree, and then one of her suitors perched on a branch within a foot of her on one side, and the other at about the same distance on the other side. Immediately a contest of song

commenced. Each male faced the female with neck outstretched and crest raised to its fullest dimensions, and leaned forward far enough to show conspicuously its bright rump, and to aid in this display, spread both wings and tail to the widest extent; and moving, or more properly dancing, up and down, poured forth such a volume of song as I did not think them capable of producing. They kept up this brilliant display of both song and plumage for over a minute, without one second's cessation, continually moving the head and body from side to side, and giving a tremulous, vibratory movement to the wings. Suddenly they stopped, and after a few seconds of restless chirping, one male flew away, and in a short time the other followed, and then the female flew after the latter."

From the middle of May onward into June you may find the nest of the Purple Finch almost invariably in the thick part of a small evergreen, and near the trunk, most commonly in the front yard, or in an evergreen hedge set for a wind-brake; for though rather shy on the whole, this species seeks the society of man. The nest is framed with small twigs, fine rootlets and some dried grass, ornamented, perhaps, with a few dried leaves, bunches of moss, or bits of vegetable down; it is lined with the finest of dried grasses and rootlets, or more commonly with hair and fine vegetable fibres. The eggs, generally four, some $.75 \times .55$, are a delicate light-green, finely specked with black, or more coarsely spotted with brown. The Purple Finch breeds here quite commonly. Wintering sparingly in Massachusetts and the more southern parts of New York, but abundantly in the Southern States, it comes to us in March, reaching Labrador in the north and the Pacific in the west, and goes southward late in the migratory season. Stearns, therefore, very properly assigns it to the "Canadian and

Alleghanian *Fauna*, the latter being in fact its center of abundance in the breeding season, at which time the bird is probably nowhere more numerous than in Massachusetts." In no place have I ever found it so abundant as in Nova Scotia.

Cassin's Purple Finch and the Crimson-fronted are closely-allied western varieties, belonging to the *Avi-fauna* of the Rocky Mountains.

The Purple Finch has the extreme robustness or thickness of bill belonging to its tribe. It is, however, not merely a seed-eating bird, but has justly awakened no small prejudice in the gardener, on account of its partiality for the tender filaments and fat anthers of fruit-blossoms. But even if fruit-blossoms were not more numerous than is necessary, this bird's bright plumage and wonderful song might well atone for the little mischief it may do.

CHAPTER IX.

EARLY APRIL AND THE PHŒBE.

I N no field of thought does the law of the association of ideas work more potently than in the domain of nature. Each season has its voices, its temperatures, and its moods of earth and sky. Along with the burning days of harvest we associate the drowsy hum of the Cicada; with the more temperate days, the fading fields and the cool evenings of late summer—the shrilling of crickets, locusts and grasshoppers; with the driving snows of winter, clouds of Snow Buntings; with the wooing, sunny days of late March and early April, the homely but significant voice of the Phœbe (*Sayornis fuscus*), one of our welcome birds of early spring. While yet the ground is crisp from the frosts of the previous night, and the lingering snow-drifts about the fence-corners give back the unclouded rays of the morning sun in countless scintillations, as the spirited note of the Robin, the amorous warble of the Bluebird, the plaintive melody of the Meadow Lark, and the ringing notes of the Song Sparrow mingle with the sound of the axe of the woodman on the hill, this newly arrived bird mounts the fence, the cornbin, or the ridge of the barn, and with frequent jerks of the tail emits, at short intervals, his rather harsh, but by no means unpleasing, *pè-wéé*. This is Phœbe's very best song. For more ordinary purposes, however, a *chip* or a *whit* may suffice. After a few weeks, the cheerful note which

announced her arrival ceases, scarcely to be heard again during her stay. Mr. Burroughs says of this note: "At agreeable intervals in her lay, she describes a circle or an ellipse in the air, ostensibly prospecting for insects, but really, I suspect, as an artistic flourish, thrown in to make up in some way for the deficiency of her musical performance." All pretty fancies aside, Phœbe is, without doubt, a Flycatcher in earnest. Mark her as she describes her curve from the fence-stake, the apple-tree, or the willow which overhangs the brook, or hovers amidst a cloud of gnats or midges, and be assured that the snapping of the bill is no mere pretense. With head large, and legs weak, with colors exceedingly plain, and a flight altogether ordinary, this bird appeals as little to the eye as to the ear. In short, Phœbe is in every point of view a homely bird; and yet, of all the feathered tribes, none has a larger or tenderer place in our sympathies. What makes her so beloved? Just that which endears certain plain and unpretending people to our hearts; or, that supports the old proverb, "handsome is that handsome does;" or, in other words, an affectionate kindness and confidence, accompanied by a useful life, greatly transcends any mere external accident of personal beauty or accomplishment. The Phœbe has a better reputation than either Wren or Robin; approaches us with even more confidence than the Bluebird, can vie with the Swallows in her destruction of noxious insects, in the self-sacrifice of her domestic cares is outdone by none, and is the sure herald of the bright and happy days of spring. On the other hand, no pilfering or cruel habits or faults of any kind detract from her many virtues. In moral suggestiveness, the history of such a life is more potent than a fable, and welcome as the beauty and fragrance of the flowers. Then cordially greet this summer resident, more

disposed to self-domestication than any other bird of our country.

As an architect, Phœbe is by no means uniform in her method. Though often constructing a mere mud-hut, strengthened by any fibrous or strawy material, placed on a projection under the piazza, on a beam in the sheds, or on the under structure of a bridge, she *may* build it almost wholly of shreds of bark, of fine rootlets, lichens, and grasses, or of mosses, using little or no mud. Two nests now before me are both curious and beautiful. The one found under a bridge is double, every part being new. It is built of lichens, moss, dried grass, and very fine rootlets, and lined with white silken fibres and horse-hair, the bulk containing a few pellets of mud as a cement. The apartment of this double nest, which was less finished and contained no eggs, was evidently built first, as the pellets of mud used in cementing the outside of the other which was closely joined to it, extend over its edge and into the nearer side of the interior. The more highly finished nest contained five fresh eggs, of the usual size, some $.75 \times .50$ inch, and pure white, and underneath these was a Cow Blackbird's egg, built out after the manner of some of the smaller birds.

What could have been the occasion of this double nest? As the unoccupied nest was built first, and was a little sidling, I infer that the bird had time to build in addition a perfectly upright one, which was more satisfactory, and therefore more highly finished. (These twin nests are a fine brown without and a delicate gray within.) Mr. Minot mentions a pair, which, being late in building, "proceeded to construct, side by side in a shed, two nests, which were finished at the same time. While the male fed the young of the first brood in one nest, the female laid the eggs of a

second brood in the other." Possibly the double nest in my possession, which, by the way, was also rather late, had it remained undisturbed, might have disclosed the same purpose. In this, as in many other cases of bird architecture, it would seem that the bird had exercised something of reason, in addition to the ordinary impulses of instinct.

The other nest in my possession was found in the cellar of an unoccupied house, and is composed almost entirely of beautiful green mosses, without any perceptible use of mud, and is also lined with white silken fibres and horse-hair—a most beautiful object, especially as ornamented with its complement of clear white eggs! Such nests are sometimes built on cliffs of rock, according to the original habits of the bird, and thus appear as if they "grew" there—a beautiful product of nature. This is a bird of the United States, rare in Northern New England and so belonging to the Alleghanian *Fauna*, wintering in the Southern States, and raising sometimes as many as three broods in a season and in the same nest, which is ready for the first occupation some time in April.

It is well understood that this species returns to the same place for nidification for years in succession. Audubon believed that the young of the previous year returned, in some cases, with the parents, and thus started a sort of colony.

Phœbe is 6.50 or upward in length, dark-olive above, still darker on the crown; under parts white or tinged with yellow; sides, and sometimes the breast, shaded with the dark color of the upper parts. The ring around the eye, the outer webbing of the wing and some of the tail-feathers are tinged with greenish-white. Bill entirely black.

THE WOOD DUCK.

Along the line between Orleans and Genesee counties is Tonawanda Swamp, extending many miles east and west, and giving rise to a number of beautiful streams. Here are large tracts of wood-land, forests of cedar and larch, immense groves of maples, ashes, elms, etc., standing in the water a great part of the year, as well as extensive tracts of mere shrubby growth, and open marshes, moss-bogs, etc. Here are many ponds and sluggish streams winding their way so quietly through the still forests that their glassy surface betrays no current until a boat is launched upon them. Being quartered with a hospitable family in the vicinity, I am spending the first days of April in these interesting haunts. Having paddled a light canoe for several miles along the meandering water-course, I build me a booth against the trunk of a large elm standing on a point where several channels meet. Seating myself, gun in hand, I have a commanding view along the channels for some distance. Presently a pair of Wood Ducks (*Aix sponsa*) appear. Evidently they are about to alight, but will first reconnoiter the place. They cross the streams several times, making short circuits through the woods. How noiselessly they glide through the tree-tops, the male leading, and the female following closely after. Satisfied as to the quiet of the spot, they drop gracefully into the wide, glassy sheet of water where the channels meet. O, the elegant figure and brilliant colors of the male, as he displays himself in front of the female! The stretching and curving of the neck, and the graceful elevating of the crest are indescribable. How he cuts and darts around his mate and most tenderly caresses her! This is the supreme moment of his rare elegance and beauty. He also utters a peculiar cackling sound. Some 20 inches in length, he is

about half way in size between the Teal and the Mallard; the short and well-shaped bill is finely shaded with yellow, carmine, and green; the top of the head, and space between the eye and bill, dark, glossy green; the long crest, dark green and deep bronze-purple, elegantly edged and streaked with white; cheeks and sides of the neck, deep purplish-brown, almost black; arches above the eyes, throat and fore-neck, with points extending across the cheeks and sides of the neck, pure white; breast light purplish-brown, with triangular white spots, and shading into bronze-green on the upper back; wing blue, black, and violet, edged with white; feathers at the shoulder of the wing white, edged with black; tail greenish-black, with rich purplish-brown on each side of the base; femoral and side-feathers, grayish-yellow, delicately penciled with black, and tipped with white and black bands; under parts, white. He is decidedly the most beautiful bird of our waters.

The female is a little smaller than the male, has the crest much smaller, and is altogether plainer in color; the upper parts being generally grayish or brownish, tinged and glossed with green and purple; space around the eyes, throat, and under parts, white; breast similar to that of the male in marking, but much plainer in color.

Having performed their amorous caresses, the happy pair spring out of the water on wing and alight in the top of a tall tree, perching as readily as any land-bird, and thus differing widely from most others of their kind. Here they are still beautiful, but not so charming as on the water.

The Wood Duck breeds here, as it does in similar retreats throughout the Union; not on the ground, however, after the usual manner of Ducks, but in the ends of large hollow limbs which have been broken off, the nest being

placed sometimes six or ten feet in, and in cavities in the bodies of trees. The nest is made of various dried vegetable matter, and is lined with feathers and down. The eggs, anywhere from a half-dozen to fifteen, are smooth, about 1.95×1.50 , nearly elliptical, of a light yellowish-white, sometimes tinged with green.

When the female begins to sit the male leaves her, after the usual manner of the Ducks, and joins other males.

When the young are about twenty-four hours old, if the limb containing the nest be over the water, they may find their way severally to the edge, and dropping into their favorite element, begin life's perilous career. If the nest be a little distant from the water, as is generally the case, the mother may seize them by the wing or neck, and convey them to it, or, landing them thus on the ground, may lead them thither in a flock. More commonly, however, the mother having thoroughly reconnoitered the place for some time, and now uttering her soft cooing call at the door-way, the little ones scramble up from the nest with the aid of their sharp toe-nails, and huddle around the mother a few minutes. The mother, now descending to the ground, calls again to the young, and they drop one by one on to the soft moss or dried leaves, their tiny bodies so enveloped in long down, falling scarcely harder than a leaf or a feather. Again they huddle around the mother-bird; and, the distance of the nest from the water being sometimes as much as sixty or seventy rods, and generally more or less on an elevation, they need the maternal guidance to their favorite element.

Here, on such shallow ponds and edges of creeks and lakes as abound in tender vegetable growths, amidst many perils, she watches over them most assiduously, aiding them in procuring their food of aquatic insects, tender shoots of

water plants, small mollusks, and tadpoles. When fully grown they delight in beech-nuts, acorns, and such berries as may be found in their locality.

These elegant birds, so delicious for the table, and so easily domesticated, spend their winters on the fresh waters of the more southern portion of the Union. Indeed, they are always strictly fresh-water ducks, and may sometimes be found in large flocks during fall and winter. Though extending somewhat farther north, this Duck is particularly a bird of the United States, breeding very commonly in all suitable places, and hence is often called the Summer Duck.

THE PEREGRINE FALCON.

Scarcely have the elegant pair of Wood Ducks disappeared, when there passed overhead one of the most distinguished birds in the world—the Peregrine Falcon, or Duck Hawk (*Falco communis*). For a moment he seemed to be “stooping” upon some object of prey, then, as if disappointed, rose for a short distance in a short spiral curve and made off. As he swept with the speed of an arrow past me, I could hear the vibrating hum of his pinions; and when he rose, he pursued his abruptly-curved pathway with a swift, nervous sailing, wholly unlike the slow and majestic sweep of the Buzzards. Though not numerous anywhere, this bird has very nearly or quite the wide world as its range. It is well known all along the Atlantic Coast, and is more or less common along the great rivers of the interior, in the mountainous regions of which it breeds, the nest, like that of the Golden Eagle, being placed on ledges of projecting rock on some lofty precipice. Professor S. S. Haldeman was the first to note its breeding in the United States, discovering the site of its nest in the mountain-

cliffs along the Susquehanna, near Columbia, Pennsylvania. Afterwards Mr. Allen gave a most satisfactory account of its nesting in Mt. Tom, on the Connecticut, in Massachusetts. Very recently I obtained from the observations of Professor Charles Linden, of Buffalo, some very interesting notes as to its breeding on the Mississippi, about sixty miles north of Cairo, Illinois. A vertical out-crop of Devonian strata, some 200 feet high and about a mile from the river, contained two nests of this species, about a quarter of a mile apart and near its crest. The nests were on a shelving of the rocks, and the limy droppings of the birds could be plainly seen for many feet adown cliff. The birds were almost constantly in sight, and the place afforded an excellent study of their habits. It being a little after the middle of April (1869), the wild Ducks were still abundant in the shallow pools of the tall forests between the cliff and the river. The Wood Ducks were there in almost countless numbers. Blue-winged Teal and Widgeon were common, while a few Mallards and Shovellers still lingered. Here the Duck Hawk, perched on a tall, leafless tree well up the mountain side, kept watch for his quarry, many a time swooping with the swiftness of an arrow and with the most unerring aim at some choice individual of the crowd. Thus he deserves to be compared to "a feathered arrow traversing the air with a rapidity of thought, a living and winged instrument of death!"

Sometimes a passing Pigeon lured him, or a Wilson's Snipe, of which there were plenty here at this time.

Generally the Duck Hawk contrives little or nothing for a nest, laying its eggs almost on the bare rock or clay; and thus the female sits closely, scrambling to the edge of the precipice, and launching into the dizzy ravine beneath only when closely crowded by the hunter. It has been related

on the best authority, however, that it sometimes constructs a bulky nest of sticks and other coarse materials.

In the timber lands along the Neosho River, Kansas, Mr. N. S. Goss found these birds breeding in trees. In the first instance, February, 1875, "the nest," he says, "was in a large sycamore, about fifty feet from the ground, in a trough-like cavity formed by the breaking off of a hollow limb near the body of the tree." He continues: "I watched the pair closely, with the view of securing both the birds and their eggs. March 27th I became satisfied that the birds were sitting, and I shot the female, but was unable to get near enough to shoot the male. The next morning I hired a young man to climb the tree, who found three fresh eggs, laid on the fine, soft, rotten wood in a hollow worked out of the same to fit the body. There was no other material or lining, except a few feathers and down mixed with the decayed wood.

"March 17, 1876," he adds, "I found a pair nesting on the opposite side of the river from the above-described nest, in a cotton-wood, at least sixty feet from the ground, the birds entering a knot-hole in the tree, apparently not over five or six inches in diameter."

Thus we see that along the rivers in prairie lands, where mountains are wanting, the Duck Hawk, wholly apart from its usual habit, nests in tall trees, appropriating something like a cavity. The eggs three or four, $2.20-2.32 \times 1.65-1.71$, are grayish ocher or chocolate-brown, dotted, spotted, and blotched with reddish-brown, sometimes continuously colored with the same either about the large or small end.

"The flight of this bird," says Audubon, "is astonishingly rapid. It is scarcely ever seen sailing, unless after being disappointed in its attempts to secure the prey which it has been pursuing, and even at such times it merely rises with

a broad, spiral circuit, to attain a sufficient elevation to enable it to reconnoiter a certain space below. It then emits a cry much resembling that of the Sparrow Hawk, but greatly louder, like that of the European Kestrel, and flies off quickly in quest of plunder. The search is often performed with a flight resembling that of the tame Pigeon, until perceiving an object, it redoubles its flappings, and pursues the fugitive with a rapidity scarcely to be conceived. Its turnings, windings and cuttings through the air are now surprising. It follows and nears the timorous quarry at every turn and back-cutting which the latter attempts. Arrived within a few feet of the prey, the Falcon is seen protruding his powerful legs and talons to their full stretch. His wings are for a moment almost closed; the next instant he grapples the prize, which, if too weighty to be carried off directly, he forces obliquely toward the ground, sometimes a hundred yards from where it was seized, to kill it and devour it on the spot. Should this happen over a large extent of water, the Falcon drops his prey and sets off in quest of another. On the contrary, should it not prove too heavy, the exulting bird carries it off to a sequestered and secure place. He pursues the smaller Ducks, Water-hens, and other swimming birds, and if they are not quick in diving, seizes them, and rises with them from the water. I have seen this Hawk come at the report of a gun and carry off a Teal, not thirty steps distant from the sportsman who had killed it, with a daring assurance as surprising as unexpected. This conduct has been observed by many individuals, and is a characteristic trait of the species. The largest Duck that I have seen this bird attack and grapple with on the wing is the Mallard.

“The Great-footed Hawk does not, however, content himself with water-fowl. He is generally seen following

the flocks of Pigeons and even Blackbirds, causing great terror in their ranks, and forcing them to perform various aerial evolutions to escape the grasp of his dreaded talons. For several days I watched one of them that had taken a particular fancy to some tame Pigeons, to secure which it went so far as to enter their house at one of the holes, seize a bird, and issue by another hole in an instant, causing such terror among the rest as to render me fearful that they would abandon the place. However, I fortunately shot the depredator.

“They occasionally feed on dead fish that have floated to the shores or sand-bars. I saw several of them thus occupied while descending the Mississippi on a journey undertaken expressly for the purpose of observing and procuring different specimens of birds, and which lasted four months, as I followed the windings of that great river, floating down it only a few miles daily. During that period, I and my companion counted upwards of fifty of these Hawks. * * *

“It is a clean bird in respect to feeding. No sooner is the prey dead than the Falcon turns its belly upwards and begins to pluck it with his bill, which he does very expertly, holding it meantime quite fast in his talons; and as soon as a portion is cleared of feathers, tears the flesh in large pieces, and swallows it with great avidity. If it is a large bird, he leaves the refuse parts, but, if small, swallows the whole in pieces. Should he be approached by an enemy, he rises with it and flies off into the interior of the woods, or, if he happens to be in a meadow, to some considerable distance, he being more wary at such times than when he has alighted on a tree.

“These birds sometimes roost in the hollows of trees. I saw one resorting for weeks every night to a hole in a dead sycamore, near Louisville, in Kentucky. It generally came

to the place a little before sunset, alighted on the dead branches, and in a short time after flew into the hollow, where it spent the night, and from whence I saw it issuing at dawn. I have known them also to retire for the same purpose to the crevices of high cliffs, on the banks of Green River, in the same State.

“Many persons believe that this Hawk, and some others, never drink any other fluid than the blood of their victims; but this is an error. I have seen them alight on sand-bars, walk to the edge of them, immerse their bills nearly up to the eyes in water, and drink in a continued manner, as Pigeons are known to do.”

Undoubtedly no American ornithologist ever observed the habits of the Duck Hawk as did Audubon; hence I have preferred to quote verbatim from him, rather than to simulate knowledge by swallowing his statements and disgorging the pellets.

A fine female of this species, taken in Orleans County, of this State, in autumn, is now before me. It is about twenty inches long and three feet in extent. Bill blackish, blue at tip, light-green at base; cere greenish-yellow; legs yellow; the general color of the upper parts is a rich dark-brown, the terminal part of each feather being much the darker, the upper part, which is mostly covered, having a grayish or ashy tinge, especially about the neck, and nearly all the feathers being tipped with light brown or brownish-white; the inner web of the wing feathers is crossed with round, oval or long spots of buff or light reddish; the tail has eight broken cross-bars of the same color, and is tipped with buffy white; the throat and sides of the neck are buff, the brown check-marking from the base of the bill being very conspicuous; the under parts and femoral feathers being buff or buffy white, heavily marked with brown. The male,

which is about three inches shorter, has more of the grayish or bluish tinge in the upper parts; and the under parts are lighter—often nearly white.

This is a typical Falcon, having the short, abruptly-curved and pointed bill, with a sharp tooth just back of the point, and a corresponding notch in the lower truncate mandible; the wings are long and pointed, the second primary being longest. This species may be recognized by its large feet, its round nostril, with a point in the center, and the dark cheek-marking starting from the base of the bill.

The Old World representative of this species has been most renowned in falconry. In this princely sport, practiced very extensively from the most ancient times till after the use of fire-arms, and still continuing more or less in vogue, the Peregrine Falcon has ever proved most susceptible of training; "waiting on" the master to perfection, "ringing" the Heron as he "takes the air," and "binding" him in the most gallant and sportive manner. A weird sight these Hawks must have been, as they were carried forth on the wrist or on frames to the hunt, all hooded and trapped out in the most fantastic manner; and most animating must have been the sport, as the grand Falcon described his aerial evolutions in capturing his swift-winged prey.

THE CHIPPING SPARROW.

About the 5th of April the first Chipping Sparrows (*Spizella socialis*) appear. They do not become very common, however, until about a week later. Of all our native Sparrows, this one shows the greatest confidence in man, preferring to rear its young in his immediate vicinity, picking up the crumbs about the door of his habitation, and therefore very properly called the *Social* Sparrow. About 5.50 long, and having the common markings of the Spar-

rows above, it is to be distinguished from most of its family by its smaller size, and from them all by its chestnut crown, shading into black in front, and by its clear grayish-white breast and under parts. The sharp, chipping note, from which it has derived its most common name, is certainly characteristic, as is also its song, which is simply a prolonged twitter—*chip-ip-ip-ip-ip-ip-ip*, itself suggestive of the name of the singer—frequently uttered throughout the day in the breeding season, and not infrequently indulged in in the night.

The anxious mother, keeping watch at the cradle of her sick child, may hear it in the lilac outside the window; or, for the wakeful sufferer, it may every now and then break the monotony of the slow, dark hours, while at the first streak of the dawn it generally strikes the key-note of the universal matin.

In the location and structure of its nest, and, indeed, in respect to the color of its eggs, *Socialis* is unlike the rest of our Sparrows. For a nest, Mr. Burroughs says: "It usually contents itself with a half-dozen stalks of dry grass and a few long hairs from a cow's tail, loosely arranged on the branch of an apple-tree." While this is graphically descriptive of many a nest, it is by no means exhaustive. I have before me several quite bulky nests. One is composed outwardly of a dense arrangement of fine rootlets, and has a thick lining of "long hairs from a cow's tail"—the same as much that passes for horse-hair in other nests—or hairs from the tail or mane of some horse. The outside of another is a pretty good bunch of coarse rootlets and dried grasses loosely thrown together, containing a lining of pigs' bristles sufficient to make a nest in itself. Another consists entirely of horse-hair. In every case there is such a quantity of hair used for lining as to justify the name of

Hairbird, sometimes given to this species. The nest, placed in any shrub, bush, vine, on the piazza, or apple-tree, is never very near the ground, and may be pretty well up. The eggs, 4 or 5, $.68 \times .48$, are a bright bluish-green, specked at the large end with reddish-brown and black. There are generally two broods in a season, the first appearing early in June. I have in my possession almost a perfect Albino of this species.

Habitat, "Eastern United States; breeding from Virginia northward; wintering from the same point southward." (Coues.) It is quite common in New Brunswick and Nova Scotia, and also on Manitoulin Island, and on the main land to the north.

THE BAY-WINGED SPARROW.

Not many hours either earlier or later than the morning of the 7th of April, we hear, in this locality, the first song of the Bay-winged Sparrow, or Grass Finch (*Poæcetes gramineus*). Almost at the same hour it is here in great numbers; and throughout our latitude the fields and pastures are everywhere enlivened by its appearance and by its pleasing song. By the white feathers on the sides of the tail, becoming conspicuous as the bird alights, by the general lightness of color, and by its habit of skulking along so as barely to keep out of the way, this bird is readily distinguished from all the rest of our Sparrows. On taking it into the hand, one notes the patch of reddish, or bay, on the shoulder of the wing, from which it receives its more common name. The length is about six inches, and male and female are alike. Associating the above distinguishing characters with the general appearance of our Sparrows, the bird will be readily made out as our commonest summer resident of the pastures, the open fields, and the road-sides. On its first appearance among us in spring, and by the time it leaves

us in late autumn, the warm tints of its plain dress are decidedly pleasing; but in the burning heat of midsummer, from constant contact with grass, stubble, dust and gravel, it appears rather shabby.

The melody of the Bay-wing, if not so sprightly and varied, still bears quite a resemblance to that of the Song Sparrow, and is expressive of a tender pathos, which may even give it the preference. It is one of the few bird-songs which might be written upon a musical staff. Beginning with a few soft syllables on the fifth note of the musical scale, it strikes several loud and prolonged notes on the eighth above, and ends in a soft warble, which seems to die out for want of breath, and may run a little down the scale. Though the song is not brilliant, and rather suggestive of humble scenes and thoughts, "the grass, the stones, the stubble, the furrow, the quiet herds, and the warm twilight among the hills," it is nevertheless a fine pastoral, full of the sweet content which dwells in the bosom of nature. It is heard to the best advantage when the rosy hues of sundown are tinting the road, the rocks, and all the higher lights of the evening landscape. Then an innumerable company of these poets "of the plain, unadorned pastures"—some perched on the fences, some on weeds and thistles, but many more hid in the grass and stubble—swell into their finest chorus, while most other birds are gradually subsiding into silence. It has been well said that the farmer following his team from the field at dusk catches the Bay-wing's sweetest strain, and that a very proper name for it would be the Vesper Sparrow. Its nest, which is on the ground, and often without any protection, is built outwardly of the coarse material of the fields, and lined with fine grass, rootlets, or horse-hair. The eggs, 4 or 5, some $.80 \times .60$ of an inch, are mostly dull white and quite variable in their markings, generally thickly

specked with reddish-brown and lilac; they are often spotted and blotched with darker brown and blackish, and often scratched and scrawled with black as with a pen, after the manner of the eggs of the *Icteridæ*.

As the first brood may be hatched here by the middle of May, the abundance of nests in all the fields brings them in contact with the plow in great numbers; and as the eggs of the second or last brood may be fresh about the 4th of July, many nests are destroyed in the hay-field. The losses sustained therefore by this bird in nidification are probably greater by far than those of any other species in the locality.

Habitat, the United States from ocean to ocean, and reported by Dr. Richardson from the Saskatchewan. Winters abundantly in the Southern States, and breeds from the southern Middle States northward, becoming very rare in New Brunswick and Nova Scotia.

WHITE-BELLIED SWALLOW.

About the first or second week in April the White-bellied Swallow (*Tachycineta bicolor*) makes its appearance. This earliest arrival of its very interesting family is most likely to be seen along streams or ponds; and while it exceeds but a little the average size of the different kinds of Swallows—for excepting the Purple or Black Martin (*Progne purpurea*), the Swallows differ but slightly in dimensions—it is readily distinguished by its simple markings of glossy greenish-black above, and pure white beneath, whence its specific name *Bicolor*, or two-colored. In purity and elegance of color it surpasses all the rest of its family in this locality, and is itself surpassed on this continent only by the exquisite beauty of the Rocky Mountains and the Pacific Coast, known as the Violet-green Swallow (*Tachycineta thalassina*). Its notes are particularly soft and musical

for a bird of its kind, so that it is called by some the Singing Swallow.

The flight of the Swallow is one of the wonders of nature. Achieving in its ordinary flight at least a mile in a minute, the Barn Swallow "has been known to leave Halifax, Nova Scotia, at sunset, for the South, and to reach the Islands of Bermuda, 800 miles due south, by sunrise the next morning." (Tristram.) Thus, in comparatively a few hours, it can pass from the Arctic snows to the tropics. Wilson estimating the flight of the Swallow at a mile in a minute, its time spent on wing per day to be ten hours, and its length of life at ten years, shows that it would thus pass round the globe *eighty-seven times*.

The White-bellied Swallow is especially swift and graceful in flight. Behold it "skating on the air." How it dashes along, seemingly almost without exertion, capturing its food or dipping its bill into the glistening stream to drink, or washing itself "by a sudden plunge," all of which scarcely retards its onward movement. In a moment it is out of sight, or else rising nearly perpendicularly, it will suddenly shoot across the tree-tops with almost lightning speed, performing the most wondrous aerial evolutions as easily as if it were tossed by the winds themselves. The whole domain of air is the Swallow's home. No path of insect is beyond its reach, and what bird of prey can overtake it? Here is freedom, indeed, and a life that is one continual recreation.

The White-bellied Swallow is associated with the days of my childhood in Nova Scotia. Many a nest did I find in the hollow stumps of the low pastures. A few dried grasses compose the outside, the inside being a considerable mass of large, downy, white feathers of the tame Goose, so laid that the tips curl inward, and almost cover the eggs when

the bird is off the nest. The pure white eggs, some four or five, are real gems of beauty. How bravely the parent birds would defend their nest, describing their noisy circles in near proximity, and, with a guttural shriek, diving so closely at the head of the intruder, as to induce a speedy retreat. The same stump would be occupied for a series of years, the annual additions of lining giving considerable depth to the nest in time. In New England this bird is now said to build in "a Martin-box," or "rarely in the hole of a tree." In New York it nests in holes about the walls of brick or stone buildings—as an instance, in large numbers in holes about the stone buildings of the Johnston Harvester Works at Brockport. Here, too, it sometimes builds in the holes of trees, and more or less in community.

On the Mud Islands, Yarmouth County, Nova Scotia, I saw the nests of this species on the ground under flat stones, and in holes in the ground. They were elegantly lined with the feathers of the Herring Gull and of the Eider Duck, the feathers being so laid that the tips curled upward and nearly concealed the eggs.

Though these Swallows do not generally nest in communities, they often associate in large numbers in spring and fall. What a spirited scene I witnessed about the middle of last April, on one of the secluded ponds of Tonawanda Swamp. The number gyrating above the glassy surface so filled the air that their movements without contact with each other seemed impossible. The air became darkened, and was made resonant by the volume of their musical twitterings.

These Swallows leave us from the earlier half of September to middle of October, when they may be seen in great numbers. Mr. Maynard, of Newtonville, Mass., says: "They congregate upon the salt marshes during the latter part of

August and the first of September literally by millions; the air is so completely filled with them that it is almost impossible to discharge a gun without killing some."

I have seen them in like numbers along the Niagara River in the latter part of September. They would darken the air in flight, and, when alighting, would blacken the shore for a long distance.

Its habitat is temperate North America, reaching even to Alaska, throughout which it breeds quite generally, while it winters in the extreme Southern States, in Central America, and in the West Indies.

Our several species of the Swallow are among the birds which are especially regular in the times of their migrations. Now, as in the days of the prophet Jeremiah, it knows the time of its coming, and as truly marks the ushering in of the joyous days of spring as when the boys of Athens sang their familiar ditty in its honor.

The Swallows, Swifts, and Goat-suckers were formerly all classed together as *Fissirostrals*, or those having a deeply-cleft bill. The resemblance which the Swallows bear to the two other groups is, however, merely external, an analogy rather than an affinity.

A strict anatomy proves the Swallows alone to have the complicated muscular system of the lower larynx belonging to the birds of song, while the remaining *Fissirostrals*, having the simpler larynx of the non-singing birds, are placed among the Flycatchers and Humming-birds.

THE COW BLACKBIRD.

One of the most beautiful and forcible lessons in nature is the conjugal and parental affection of the birds. The inimitable songs of the males are generally most ardently and sweetly delivered, while the females are enduring the

tedious confinement and exhaustion of incubation; thus charming the ear with an entertainment which might delight the very highest intelligences, and so beguiling the weary hours. Behold that male Bluebird feeding the female in the most kindly manner, or the Rose-breasted Grosbeak taking apparently the greater part of the burden of incubation upon himself! How disconsolate is that House Wren whose mate the cat has killed! Listen to the sad moanings of that Mourning Dove bereft of his mate! I have sometimes pointed the newly-married couple to the birds as being the best guide to domestic felicity.

And has the reader ever noticed the melancholy arts of a female bird, when startled from her eggs, as she hobbles and flutters along the ground feigning broken legs and wings? Has he ever seen the distress of the mother Partridge at the alarm of her young brood? Giving them the well-understood signal to hide themselves, she tumbles about and moans, as if in the last agonies of death, and will even allow herself to be touched by the hand in order to decoy the intruder; and when danger seems over, listen to her pathetic maternal call, which again brings the tender younglings under her wings! Neither father nor mother of the human species could feed and protect a helpless family with more self-sacrificing industry than is universally common to the parent birds. Audubon tells us how the heart of a pirate was once softened while listening to the tender cooings of the Zenaida Doves in the breeding season on one of the Florida Keys. Dropping on his knees upon the burning sand, he penitently besought heaven for mercy, and, at the peril of his life, forsook his murderous crew, and joined his formerly abandoned family.

In the case, however, of the Cow Blackbird (*Molothrus pecoris*) of America, and the Cuckoo of Europe, two birds

belonging to altogether different families, we note a most remarkable exception, these being wholly polygamous and parasitic. The Cow Blackbird makes its first appearance in Western New York about the end of the first week in April. Some 7.00 or 7.50 long, the male is a glossy greenish-black, with a brown head. The female, somewhat smaller, is plain slaty-brown. In sombre groups of some half-dozen or more—the males being at first the more numerous, but the sexes soon becoming about equally represented—they perch leisurely on the fence, on a solitary tree in the field or in the edge of the woods, often penetrating the thickest forests. The intercourse of the sexes is entirely promiscuous, no male ever showing any continuous attachment to any one female. Since the body-guard of insects accompanying the cattle affords the Cow Bird a constant repast, or more especially from the attractiveness of certain intestinal worms passed in the excrements of cattle by means of the aperient effects of green grass in spring and early summer, this species is noted for its preference of the vicinity of these quadrupeds; even lighting on their backs; hence its common name, Cow Blackbird, formerly Cow Bunting.

Dr. Coues says: "Cow Birds appear to be particularly abundant in the west; more so, perhaps, than they really are, for the numbers that in the East spread equally over large areas are here drawn within small compass, owing to lack of attractions abroad. Every wagon-train passing over the prairies in summer is attended by flocks of the birds; every camp and stock-coral, permanent or temporary, is besieged by the busy birds eager to glean subsistence from the wasted forage. Their familiarity under these circumstances is surprising. Perpetually wandering about the feet of the draught-animals, or perching upon their backs, they become so accustomed to man's presence that they

will hardly get out of the way. I have even known a young bird to suffer itself to be taken in hand, and it is no uncommon thing to have the birds fluttering within a few feet of one's head. The animals appear to rather like the birds, and suffer them to perch in a row upon their back-bones, doubtless finding the scratching of their feet a comfortable sensation, to say nothing of the riddance from insect parasites."

In respect to its vocal performances, this bird is curious rather than entertaining. Ruffing up its feathers, opening wide its mouth, and appearing to strain every muscle, it "seems literally to vomit up its notes," which bear a formal resemblance, indeed, to those of the closely-related Red-winged Blackbird, but are almost entirely destitute of their claims to musical quality. The vocal utterances of *Pecoris* do certainly "gurgle and blubber up out of him, falling on the ear with a peculiar subtle ring, as of turning water from a glass bottle," but, perhaps, on account of my prejudice, I fail utterly to discover their "pleasing cadence."

While other birds are busy building their nests, this reckless free-lover betrays no impulse whatever in this direction, but gayly flitting about from place to place, spends his time in mere wanton pleasure. As soon as the nests of other birds are completed, you may notice the females of this dusky flock of Cow Birds becoming very uneasy. One by one they steal away in quest of some strange nest in which to deposit their eggs. They have been known to search the ground, the bushes, and the trees for miles in order to accomplish their purpose. Never driving away the rightful owner, nor taking possession by force, they will creep stealthily into the nest in the absence of the owner, and hastily depositing an egg, hurry back to join their company with the most obvious sense of relief, and without the slightest further concern for their offspring.

This species has never been known to build a nest, nor to take any interest in raising its young, which are left entirely to the care of foster parents. Almost invariably the nest of a bird much smaller than itself is chosen. The Sparrows, the Warblers, the Vireos, the smaller Flycatchers—in fact, any of the small land-birds—may become the victim of this imposition. Occasionally birds near its own size, as the Scarlet Tanager or the Bluebird, may be obliged to bear the burden. The Cow Bird's egg is so unusually small for the size of the bird, only some $90 \times .65$ of an inch, that it is readily accommodated in the nests of very small birds, whereas, if dropped into that of larger ones, it may be thrown out. I have found it with a hole in the side and lying on the ground, beneath the nest of the Yellow-breasted Chat, thus evidently pierced by the bill of the bird, and ousted in indignation. These eggs, of a dirty white and specked all over with brown, are readily distinguished from those of any nest in which they may be placed, and are always unwelcome to the owners, which will become very uneasy and querulous; and the female, hunting up its mate, will make a noisy ado over the intrusion. If the owner has not yet laid her own eggs she may forsake the nest, or add a story to it, thus burying the foreign egg so deeply as to suffer no inconvenience from it. Many cases of the latter expediency have been found. Wilson found a Yellow Warbler's nest containing two eggs thus separately built out, making a nest of three stories. I have seen a like nest of the Redstart. The owner of such a nest does, indeed, deserve "a better fate than that her house should at last be despoiled by a naturalist;" but "passing thus into history," and making such a contribution to science, is worth a great sacrifice. I once found a Wood Thrush sitting stupidly on a solitary egg of the Cow Blackbird. This would seem to be exceptional.

Wilson and Audubon, as well as the earlier ornithologists in general, were mistaken in saying that no nest contained more than one of the Cow Blackbird's eggs. I have frequently found more than one in the same nest; once not less than four in the nest of a Scarlet Tanager, which had only room enough left for two of her own. Mr. Trippe once found a Black-and-white Creeper's nest with *five* of the eggs of the interloper and three deposited by the owner. Dr. Coues has well said: "We may consider this pair of Creepers relieved, on the whole, by Mr. Trippe's visit—the mother-bird rescued from drowning in the inundation of so many 'well-springs,' and the father saved the necessity of hanging himself from the nearest convenient crotch."

Perhaps requiring a shorter period of incubation, perhaps on account of the size of the egg being greater, and thus receiving more warmth than those of the owner of the nest, the Cow Bird's egg invariably hatches first. Then the foster parent, prompted by the generosity of parental instinct, will leave her own eggs to chill, while she secures food for the foundling. Thus the Cow Bird alone is hatched, and the addled eggs of the owner of the nest are soon removed. Considering the number of nests thus intruded upon, sometimes apparently more than half of the small birds' nests in this locality, the check thus put upon the propagation of these various species must be very great.

The young Cow Blackbird grows rapidly, and soon more than fills the nest. Meanwhile the foster parents feed it most assiduously, and continue to do so long after it has left the nest, and when it is many times larger than the little Sparrow or Warbler thus imposed upon. It is by no means suggestive of pleasing reflections to see this great over-grown foundling flapping its wings and calling loudly

for these attentions when it seems sufficiently mature to take care of itself.

The remarkable sagacity of these young birds in discovering each other has been well noted by ornithologists. I have seen them in very considerable flocks already by the 20th of June, and later in the season they gather into flocks, which are simply immense.

Considering how many of our summer residents are hard to find during the moulting period, it may not after all appear so strange that the Cow Bird seems absent during a certain part of summer. In late summer and early autumn they are wont to assemble in large flocks, sometimes quite destructive, and, migrating late in autumn, spend the winter in great numbers in the Southern States. They are said to deposit their eggs from 35° to 68° north. General habitat, North America.

Plain in form and color, without musical attractions, of a disgusting diet, an arrant free-lover, wholly without parental affection, a destroyer at the very threshold of the life of many of our most interesting birds, in short, in all respects of most distasteful and infamous habits, this grand ornithological nuisance would seem to claim no consideration whatever, except as an anomaly, being a most flat contradiction of the laws of its kind, and hence an addition to nature's great variety.

THE MOURNING DOVE.

On the 10th of April one of my parishioners called my attention to what he called a flock of Plover in a field where he had raised corn the year before. The flock, consisting of some twenty, turned out to be Mourning Doves (*Zenaidura carolinensis*). Rarely do we see so many together at any time of year in this locality. Occasionally, how-

ever, they will appear in the newly-reaped wheat-fields in the month of August in very large flocks. They remained in this field for days, gleaning the stray kernels of corn, and perhaps the seeds of the coarser weeds. These birds arrive quite as early as the present date, generally in pairs, and sometimes stray individuals remain all winter. In Northern Ohio they spend the winter in small flocks about the barnyards and orchards, gleaning and feeding along with the domestic fowl, thus becoming almost domesticated. Having the small head, peculiar bill, slender neck, short legs, and pointed tail of the Doves, it is a genuine member of the *Columbidæ* family, and a near relative of our Pigeon. About a foot long, with fourteen tail feathers, and a naked space around the eyes, its color is a slaty-brown above, bluish on the top of the head and on the back of the neck, a velvety-black spot on the auriculars; front of the neck, breast, and under parts, a delicate, warm light-red; throat, crissum, and ends of the outer tail feathers, white. Here and there about the wings and back is a dark slaty or black feather. The sides of the neck have a beautiful, metallic purple gloss, or iridescence. Female and young, plainer and duller, and slaty on the breast.

As in Bible lands, the cooing of the Dove is one of the characteristic voices of our advanced spring. In thickets, and especially in orchards, sometimes even in the ornamented evergreens of the front-yard, some four successive notes, a most mournful cooing among "the saddest sounds in nature," may be heard throughout the day, but especially in the early morning. These notes, however, so strangely in contrast with the universal gladness of spring, are by no means the utterance of grief or woe, but rather of the tenderest emotions of love and joy. They are the conjugal notes of the male; and such are his attentions and appar-

ently life-long attachment to the female, that, like the Doves in general through all historic times, he is a fit emblem of the domestic affections. Moreover, his solemn, mournful air renders him a fit symbol of the most pensive side of nature.

The nest of this species, found here late in May, placed in a bush or tree, on the roots of a windfall, on a stump, or on the ground, is generally a slight and loose construction of dry twigs, and perhaps a few rootlets, built in what is called *the platform style*, so slight that one can scarcely imagine how the eggs can be hatched and the young ones raised on it; and contains two beautiful white eggs, measuring about $1.12 \times .85$. A nest now before me, some two inches or more in thickness, and found in an orchard, is made of neat, crooked twigs, more or less covered with lichens, and very artistically laid. It is finished on the top with fine rootlets, skeleton-leaves, and bits of wool; and is a very gem of its kind, reminding one of some fancy log-cabin.

The young Doves are well matured before they leave the nest, and sit side by side upon the ordinarily rude affair. At night the old one sits crosswise on them, even when they are quite large, the nest and birds together thus making quite a grotesque pile.

The diet of these birds is well stated by Wilson, who says they "are exceedingly fond of buckwheat, hemp-seed and Indian corn; feed on the berries of the holly, the dogwood, and poke, huckleberries, partridge-berries, and the small acorns of the live oak and shrub oak. They devour large quantities of gravel, and sometimes pay a visit to the kitchen-garden for peas, for which they have a particular regard."

The Mourning Doves, or Carolina Turtle Doves, as they are sometimes called, may often be seen dusting themselves in the road; and, at all times, their flight is very noticeable from the sharp whistling noise produced by each stroke of

the wings. They are abundant summer residents, many also spending the winter throughout the Middle States; becoming rare already in New England, they barely extend into the British Provinces. Many migrate to the Southern States, where they spend the winter in large flocks; and many remain there during the summer. The Mourning Doves are also common to the Pacific Coast.

The elegant White-headed Dove of the West India Islands is a summer resident of the Florida Keys. About 13.12 long, the "general color throughout is dark slaty-blue, becoming very dark on the tail above and black beneath." Crown pure white; back of neck rich purplish-brown; sides of the neck elegant iridescent green, with golden reflections and a fine black margin to each feather. The Zenaida Dove, with a most plaintive and pathetic note, has been found by Audubon only, on the Florida Keys. The plain but elegant little Ground Dove, only seven inches long, "a constant resident throughout the Carolinas and southward, may be so easily known by its diminutive size that it needs no description. Its rather elaborate nest of twigs and weeds lined with *usnea*, and containing one or two creamy white eggs, some .85 X .64, may be on the ground, or in a bush or tree. The Key West Dove appears in summer on Key West, as implied by its name. Excepting the Ground Dove, the above group of Doves belongs to the West Indies, and barely reaches the localities named in summer.

THE WHITE-RUMPED SHRIKE.

About this 12th of April I observe a quite common bird of this locality, the White-rumped Shrike (*Collurio ludovicianus* var. *excubitoroides*), already mated. Single individuals of this species are here in March, and their first brood may be hatched by the latter part of April, a second appearing in

July. Some 8.50–9.00 long, it is about an inch shorter than the Northern Shrike (*Collurio borealis*), and precisely the size of the Loggerhead (*Collurio ludovicianus*) of the Gulf States, of which latter it is now regarded as a mere variety, occupying the more western and northwestern regions. Coues gives its habitat: "Middle Province of North America, to the Saskatchewan; east through Kansas, Iowa, Ohio, Illinois and Wisconsin, to New York and Canada West, probably into New England. In the Southern States, replaced by typical *ludovicianus*. On the Pacific Coast, not observed north of California. South through Mexico." Frank R. Rathbun, in his list of birds of Central New York, states that it is "a not uncommon summer resident."

Bluish-ash above, white beneath (sometimes rather grayish-white), patches from the base of the bill across the eyes and auriculars, the rounded wings and tail, black; spot in the base of the primaries, tips of some of the secondaries, edging of the scapulars, sides of the tail and rump, white; bill and feet black—this bird is really beautiful, especially in its flight, which is low and straightforward, with rapid strokes, showing the clear white and black of the wings and tail to fine advantage. The rapid wing motion seems almost to describe contiguous semicircles of white and black at the sides of the moving bird, and contrast finely with its clear, light colors. It perches on some solitary tree in the open field, on a fence-stake, or on the hedge; sitting motionless as a Hawk, while it watches its vicinity for its favorite items of prey, consisting of various small insects, beetles, grasshoppers, mice, and small birds, which last it may not infrequently be seen lugging by the head as it flies from point to point, or munching at its leisure when perched.

The orchard is decidedly a favorite resort of this bird. Here, saddled on the limb of an apple-tree, it builds its

strongly characterized nest of sticks, coarse weeds, rootlets, shreds of bark, woody fibers, dried grasses, thread, wool, and feathers, the lining consisting particularly of the last-mentioned items. The whole structure is bulky and ragged, the rim being so thick, loose and irregular as almost to hide the eggs, which may be partially buried in the carelessly-arranged lining. The eggs, 5 or 6, about $1.00 \times .75$ are dull white, spotted with greenish-gray or brown, and a more neutral tint of lilac-gray. The nest may be placed in a solitary tree of the open field, or in the thick part of the hedge. Having taken a nest with 6 fresh eggs on the 28th of April, by the end of the first week in May another had been built and contained 3 eggs.

During the breeding season the male may be frequently seen perched on the fence by the road-side. This is almost a silent bird, the male occasionally uttering a loud *peemp*, *peemp*, in the mating period, and the female uttering a prolonged guttural squeak when startled from her nest. The latter resembles a weaker note of the Vireos, uttered under like circumstances.

The young Shrikes resemble their parents, except that the colors are not so pure and bright, and they have a light-brownish wash across the breast, in which, as also in the ashen-gray of the upper parts, there is a fine, dark cross-penciling.

The White-rumped Shrike leaves us late in the fall.

The Shrikes are a strange family of birds. With the bill and head of a Falcon, the mouth-bristles of a Flycatcher, the feet and laryngeal muscles of a song-bird, the dietetic habits of a Hawk, and, in the case of our American species, the color of the Mockingbird, ornithologists have been much puzzled as to their place in classification. In the latest American works they rank between the *Vireonidae* and the *Fringillidae*.

CHAPTER X.

LATER IN APRIL.

THE DABCHICK.

ON the 15th of April, I go to Lake Ontario at the mouth of Johnson's Creek to spend a few days in observing and collecting. As I stealthily approach the creek near its outlet, I see a Dabchick (*Podilymbus podiceps*) swimming among the rushes. Occasionally he emits a clear whistle not unlike the peep of the Hylas. How spry he is, darting hither and thither, diving to reappear many rods away, and shaking his head violently as he emerges. I cannot tell one moment where to look for him the next. No wonder he has received the common name—Water-witch. Now he starts up and flies a few rods, patting the surface of the water with his lobate feet, as if he were half flying and half running. His head turns so quickly in every direction that I cannot decide whether he sees me or not, only as I imply it from his sinking so deeply as he swims whenever he rises after diving, and finally from his disappearing among the sedges. This is no doubt a breeding place of this species, as are also the marshes about Grand Island, in Niagara River. In August or September, when the family is well grown, it is interesting to watch them at their sports in their quiet haunts. They seem most active between daylight and sunrise. Then, if one is well hid away by the still water, their active swimming and graceful diving can be seen to good advantage.

Spreading considerably apart, they allow themselves plenty of room. How the ripples, started by their breasts, enlarge like arcs of circles on the glassy surface, and intersecting each other, move on increasingly to the shore. In quick succession they glide softly under the water, and remain for some time, no doubt taking their food of small fishes and aquatic grasses. Nothing can exceed the ease and gracefulness with which they dive, so tipping under the water as barely to ruffle the mirror-like surface. Presently they reappear, one after another, shaking their heads, and looking this way and that as if to make sure of their safety, but still swimming well out of the water. Gliding along much more rapidly than Ducks, they describe their elegant curves for a few seconds, and then all disappear again. What a happy family they are! Should they take alarm, using their wings to aid in swimming, they will literally fly under water, coming up a long distance away, and so contracting their bodies in respiration, and thus lessening their specific gravity, as barely to protrude the head or bill on coming up to breathe, and probably in a few minutes will all entirely disappear among the sedges and cat-tails. Though easily shot when not on the lookout, if once suspicious of danger it is almost impossible to capture them, since they will dive between the flash of the gun and the arrival of the charge.

How does any bird dare to set out on the immense flights of migration with such tiny wings! They might serve the same purpose as the fins of a fish, but who would imagine them at all sufficient for flight! Indeed, the wing of the Grebe is a compromise between a wing and a fin, it being the smallest wing possible for flight to a bird of its size—and what a mere apology for a tail is that little tuft of hair—a common mark of all the Grebes. The

posterior position of his legs, making him appear in standing like an ancient skin-bottle, as well as his long lobate toes, clearly shows that he was not made for walking, but for swimming. He seems to understand alike his weakness and his strength, for when disturbed, he prefers to take to the water rather than to the air—hence that common but rather profane name of the family—"Hell-divers."

If there are birds which seem to be designed to live almost entirely in the air, here is a kind evidently designed to live almost entirely on the water. Its migrations would seem to be by means of the great water-courses, rather than through the aerial highways. Its food is taken from the water, and its nest is a floating fabric.

The Grebes belong to the order *Pygopodes*, or Diving Birds, and constitute the strongly marked family *Podicipidæ*. They stand next to the Loons which they resemble quite strongly, notwithstanding many minor points of difference, and they are the last family in the present systems of classification of birds. The breast-bone is very firm, and the keel is large. The lower region of the bones of the back has the same keel-like ridge which, to receive the immense muscles of the thigh, is so noticeable in the skeleton of the Loon. The legs extend backward, and are joined by strong muscles to the back, to secure facility in diving, the bird kicking upward against the water in this act. The tarsi are almost as flat as a knife-blade, which form greatly aids in swimming, as it affords the least possible resistance; the feet are continuously lobed, and more or less joined by a web at the bases of the toes, the claws on the latter being flattened like human toe-nails. The bill is generally rather long and pointed. The eyes are far forward, with a bare space in front. The exquisite coat of down in which the young appear is black, elegantly striped with white, and

marked with red about the head. In most species the color of the plumage changes greatly with the season, and there is a conspicuous ruff or ornament about the head of the male in the breeding period. The plumage of the under parts has a peculiar open structure and a satiny, lustrous surface, inducing its use as fur. The nesting habits of the family are similar throughout.

The Dabchick is some 13.00 long. The bill, which is shorter and thicker than that of most Grebes, is pale blue, with a black ring around the part perforated by the nostril. The upper parts are dark brown, the fore-neck reddish, belly white, sides grayish; under the chin there is a black spot in spring, the only distinguishing mark of the breeding season. In the fall this last mark is wanting, and the young have the throat white, streaked with dark. Late in the fall even the young are much smaller than the parents.

Having had my attention called to the breeding of this species at St. Clair Flats by the communications in the *Oologist*—now *Ornithologist* and *Oologist*—by Mr. W. H. Collins, a distinguished taxidermist of Detroit, I gave the matter a careful investigation when visiting that place in the spring of 1882. The nest, built up from the bottom in water from a foot to eighteen inches deep, to several inches above the water, is a sort of pier, sheltered by sedges, cat-tails and rushes; and though stationary as thus protected, is so nearly afloat that any considerable agitation of the water will rock it to and fro. It is a carefully-laid pile of soaked and decaying rushes of former years, and other decaying matter from the bottom, with a good deal of the larger fresh water algæ mixed in. Cylindrical, some 18 inches in diameter, and symmetrically rounded at the top, and having a slight depression for the eggs, it is the wettest, dirtiest, nastiest thing to be conceived of in the way

of a bird's nest. On this filthy arrangement are placed some six or eight eggs, about $1.25 \times .87$, white, tinged or waved with light green, the surface being rather rough or granulated. They are soon soiled from contact with the nest. The birds are exceedingly on the alert, leaving the nest, and partially covering the eggs with the wet material, and getting entirely out of sight before the nest is discovered. On examining the nest, however, there can be no doubt as to the method of incubation. The eggs are quite warm, and there is nothing in the condition or temperature of the nest that will at all account for the warmth. The newly hatched young, jet-black, with six narrow, white stripes over the back extending up on the neck, and red or reddish markings about the head, underneath white, bill red, and feet black, are truly beautiful; and so keen is their instinct of fear as soon as they are out of the shell, that they will scramble off the nest and hide among the rushes before one can detect the nest; and but for their chicken-like peeping, their presence would not be suspected. Meanwhile the plaintive whistle of the parent bird may be heard in the vicinity, now here, now there, but seldom, indeed, does she allow herself to be seen. Now ensconce yourself away and remain quiet for a few minutes, and this mother diver will make her appearance, looking sharply in every direction, and softly whistling together her scattered brood. Well understanding these coaxing notes, the little ones gather around her from among the rushes and sedges, and, as she swims deeply, mount on her back for a ride. This is truly a pretty sight, as well calculated to soften the heart as is the cooing of the Dove. Occasionally you will see this bird take her young under her wings, when alarmed, and dive with them, the little ones remaining under for some time, but generally coming up before the parent.

The Dabchick breeds abundantly about St. Clair Flats, still more abundantly to the northwest, as in Northern Minnesota and Dakota, and more or less, indeed, from the northern limits of the Southern States to the Gulf of St. Lawrence; and though its winter habitat is in the Southern States, it has been found in midwinter as far north as Southern New England.

THE HORNED GREBE.

The Horned Grebe (*Podiceps cornutus*) is the most numerous member of its family in this locality during the migrations. In the last week of April or the first week of May, it is very common on our streams and ponds. On the broad and beautiful current of Niagara River, below the gorge, these birds may then appear in flocks of hundreds; and their sporting and diving is a sight worth seeing. Now they are all gliding hither and thither along the surface; now they go down in rapid succession till every bird is under water, and again they come up as quickly, till the vast number is once more in full sight. Now the male expands his ruff to full effect, giving his thus greatly enlarged head, set off with pointed bill and red eyes, altogether a peculiar appearance. Probably all the Grebes migrate for the most part by means of the great water-courses, and so depend but little on their rather imperfect powers of flight in this great emergency.

In the early days of spring, as the Horned Grebes pass along our inland water-courses, it is so common to see them in pairs that I infer they must mate before leaving their winter habitat.

About 14.00 long, wing some 6.00, bill .75 and quite slender and pointed, the male has the crest and ruffs well developed. Very dark brown above, many of the feathers generally fringed with light gray; below satiny

white, the curved secondaries white; the black head and ruffs with a yellowish-brown tuft or horn extending from the eye to the back of the head, the continuation of the same in front of the eye chestnut; the neck, except a black strip down the back, chestnut or brownish-red; sides and flanks brown and white mixed. The female is similar, with the ruff much reduced, and the colors less pure and bright.

Concerning the breeding of this species, Dr. Coues says: "I found it breeding at various points in Northern Dakota, as along the Red River, in the prairie sloughs, with Coots, Phalaropes and various Ducks, and in pools about the base of Turtle Mountain, in company with *P. californicus* and the Dabchick. I took fresh eggs on the 20th of June at Pembina, finding them scattered on a soaking bed of decayed reeds, as they had doubtless been disturbed by the hasty movements of the parents in quitting the nest; there were only four; probably more would have been laid. They are elliptical in shape, with little or no difference in contour at either end; dull whitish, with a very faint shade, quite smooth, and measure about 1.70×1.20 . On Turtle Mountain, late in July, I procured newly-hatched young, swimming with their parents in the various pools. At this early stage the neck is striped, as in the common Dabchick."

The autumnal dress of this Grebe is so different from that above described of the spring, that one not aware of the identity of the bird in its changed habit would suppose it to be another species. The ruff is barely indicated by a slight lengthening of the feathers about the head, while the back and under parts are nearly as in spring; the crown, back part of the neck, and the sides are a sooty gray; the chin, throat and sides of the head, white; forepart of the neck, light ashy-gray. Thus clad, they appear in Western New York in October, sometimes singly or in small numbers, on

streams and ponds, sometimes in flocks of hundreds along the margin of Lake Ontario, or on other large bodies of water. In their autumnal appearance there is something particularly chaste and elegant, and finely in harmony with the cold, gray surf in which they are so sprightly and active.

THE CRESTED GREBE.

The Crested Grebe (*Podiceps cristatus*) is common in North America, especially in the more northern parts of the continent, and is also abundant in Western Europe. It is much larger than either of those above described, being some 24.00 long and about 33.00 in extent. The ruff on the male of this species is very large, and the crest, looking very much like two horns, is very conspicuous. The crown, crest and terminal part of the ruff is glossy black; base of the ruff bright reddish-brown; fulvous over the eye; cheeks and throat silky white; back of the neck and upper parts, generally, dark brown, the feathers edged with light-brown or gray; sides of the body reddish, streaked with dusky; fore-neck, and under parts, pure silky white. In this bright spring plumage, the male, with his long, slender, graceful neck, is a truly beautiful object on the water. In the autumn the crest and the ruffs are absent, and the head and neck are of the same continuous plain color. This species breeds to the north, and is said to construct the same bulky, floating nest, tied to the reeds and rushes, as the rest of the family; and to have eggs similar, only correspondingly larger.

THE RED-NECKED GREBE.

The Red-necked Grebe (*Podiceps griseigena* var. *holbolli*) is also found in North America. It is quite a little less in length than the former, being only 19 inches, but it is more bulky, and its bill and tarsi are much shorter. The adult

breeding plumage is described by Dr. Coues as follows: "Crests short and ruffs scarcely apparent. Bill black, the tertia of the upper mandible at base and most of the lower mandible yellowish. Crown and occiput glossy greenish-black; back of the neck the same, less intense, and the upper parts generally the same, with grayish edgings of the feathers. Wing-coverts and primaries uniform chocolate-brown, the shafts of the latter black. Secondaries white, mostly with black shafts and brownish tips. Lining of wings and axillars white. A broad patch of silvery-ash on the throat, extending around on sides of the head, whitening along line of juncture with the black of the crown. Neck, except the dorsal line, deep brownish-red, which extends diluted some distance on the breast. Under parts silky white, with a shade of silvery-ash, each feather having a dark shaft-line and terminal spot, producing a peculiar dappled appearance." To the far northwest there are also the Eared Grebe and the Western Grebe.

PINTAILS AND WIDGEONS.

Before entering Lake Ontario, Johnson's Creek bends northward, and again runs but a little north of westward, thus entering obliquely, and forming a narrow point of land between its right bank and the lake. This point is for the most part well wooded, as is also a considerable part of the opposite bank, thus making a fair retreat for waterfowl in their migrations. Here the creek is pretty wide, and its surface is smooth. As I sit on the bank, concealed in the bushes, a flock of some dozen Ducks drops into the stream a distance up, but near enough to be well studied with the aid of a glass. They are Widgeons (*Mareca americana*) and Pintails (*Dafila acuta*). Both are beautiful species of our fresh waters, and are frequently seen together, when

they come from the north from September onward, and again when they return to their breeding grounds in spring, which is generally during April, but is sometimes as late as the first week in May. Not only do they journey together, but they continue together, and also in company with the Teals and Mallards, being often in large flocks in the Southern States in winter, and breeding abundantly together in the north, especially about the cedar swamps of Hudson's Bay, and the lowlands of Milk River and its tributaries, as also through Northern Dakota and Montana generally. In the first-named locality the Pintail is said to breed the most abundantly of all the Ducks.

This species, inclusive of the long, ornamental feathers in the center of his tail, is 29.00 long, and his extent of wings is 36.00; bill long and narrow; neck very long and slender; head a glossy dusky-brown to half-way down the neck in front, the centers of the feathers being darker, and the whole somewhat tinged with violet or green toward the back of the head; front of the lower neck, and strips up the side of it to the back of the head, white; strip down the back of the head black, becoming gray on the neck; upper parts of a general grayish or dusky effect, the dusky feathers being for the most part delicately penciled with white; the long-pointed scapulars, tertiaries and tail feathers, except the two long black ones in the center, black or dusky, edged or streaked with white or gray; beauty spot green, the bar in front rich olive, that behind white; under parts white, often tinged with olive.

The female, having the feathers in the center of the tail only about a half-inch longer than the rest, and being otherwise slightly smaller than the male, is but 22.00 long, with some 34.00 extent of wing; her head is dark brown, her neck dingy white, thickly specked with brown; the dusky, or

blackish of the upper parts is marked crosswise with brownish-white; breast and under parts, brownish-white, marked with white.

On the still waters of this creek, sheltered on both sides by the woods, this Duck is well at home, since it is emphatically an inland species—frequenting prairie sloughs, ponds and rivers, seldom reaching the sea coast and never breeding with the Ducks of the ocean to the north. What a striking object of beauty is that male, swimming with his breast well immersed and his back parts thrown up, his elegant tail elevated almost to the perpendicular, his long, slender, swan-like neck sinuating most gracefully about him, and every part of his lengthy and finely-formed body marked and colored in brilliant contrasts! The Pintails, four males and four females, separate from the Widgeons, the one flock going to one side of the creek and the other to the opposite side. The Pintails swim close together, and seek their food in the shallow margins. They do not dive so as to disappear, but, immersing their head and breast, throw up their feet into the air. They are no doubt in search of tadpoles, for which they labor with much avidity in spring. As they raise their heads above water, the males occasionally utter a rather soft and musical jabber, wholly unlike the hoarse squak of the Mallard or the Dusky Duck. Discerning no object of danger, and feeling perfectly at home in this retired nook, they go ashore in the edge of the woods and turn over the leaves in search of snails, insects, and the beech-nuts of last year, scarcely sprouted as yet. One even snaps his bill at a passing fly, while another captures a drowsy, fluttering moth, just abroad from his winter quarters. How finely they walk with tails erect. Ah! they have taken alarm, and rise *en masse* on wing. Were I within range of shot I might take them all

with the contents of one barrel, so closely do they fly. Once aloft in the air they are a most graceful figure in the landscape; their full length of neck, body and tail, with short and quiet flap of the wings, giving them the appearance of a volley of huge arrows against the clear ether. What could awaken more pleasing emotions than scenes like these?

Concerning the breeding habitat of the Pintail, Dr. Coues says: "Although I have not recognized it in the Missouri region proper during the breeding season, yet I found it to be one of the commonest of the various Ducks that nest in the country drained by the Milk River and its tributaries throughout most of the northern parts of Montana. In traveling through that country in July, I found it on all the prairie pools and alkaline lakes. At this date the young were just beginning to fly, in most instances, while the old birds were for the most part deprived of flight by moulting of the quills. Many of the former were killed with sticks, or captured by the hand, and afforded welcome variation of our hard fare. On invasion of the grassy or reedy pools where the Ducks were, they generally crawled shyly out upon the prairie around, and there squatted to hide, so that we procured more from the dry grass surrounding than in the pools themselves. I have sometimes stumbled thus upon several together, crouching as close as possible, and caught them all in my hands."

He then adds from Dr. Dall concerning this same species: "Extremely common in all parts of the Yukon, and on the marshes near the sea coast. In the early spring, arriving about May 1st, at Nulato, it is gregarious; but as soon as it commences to breed, about May 20th, or later, they are generally found solitary or in pairs. Their nest is usually in the sedge, lined with dry grass, and, in the absence of both

parents, is covered with dry leaves and feathers. * *

* * They lay from six to ten, or even twelve eggs, and as soon as the young are hatched they withdraw from the river to the small creeks and rivulets, where they remain until the ducklings are fully able to fly, when all repair to the great marshes, where, on the roots of the horse-tail (*Equisetum*), they grow so fat that frequently they cannot raise themselves above the water."

It is further added, that "a nest-complement of seven eggs, from the Yukon, now in the Smithsonian, furnishes the following characters: Size $2.10 \times 1.50-2.30 \times 1.55$; shape, rather elongate ellipsoidal; color, uniform dull grayish-olive, without any buff or creamy shade."

This species is common also to the Old World.

Our American Widgeon, or Baldpate, though very similar in size, form, and marking to that of Europe, is still specifically different. Some 22 inches long and 30 in extent, the bill is slate-color, the nail black; the crown creamy, sometimes almost white; cheeks and neck the same, specked and spotted with black; patch from around the eye to the nape, including the pendent crest, glossy green; line down the back of the neck, the breast and sides, vinous or purplish-brown—the tips of the feathers somewhat hoary and the sides cross-penciled with wavy lines of black; belly, white; crest, black; back and scapulars, vinous bay, elegantly crossed with wavy lines of black; lower back, primaries, and tail, the central feathers of which are elongated, dusky; speculum velvety black, with a cross-line of glossy green next to the coverts which are white, the greater ones tipped with black and bounded with gray above; the outer web of the elongated tertiaries velvety—black edged with white; under tail-coverts black, contrasting strongly with the white vent.

The female has the head and neck brownish-white, thickly specked and streaked with black; back and scapulars, dusky-brown, the feathers edged with drab or light reddish-brown, those on the back elegantly waved with narrow lines of chestnut-red; wing dusky, speculum and coverts edged with white; the purplish-brown of the breast somewhat as in the male, but lighter, and mixed with dusky; under parts like the male, except the tail-coverts, which are white and brown-spotted.

This bird has the habits of our fresh-water Ducks in general, spending the winter on the rivers, streams, bays, lakes, ponds, and flooded fields of the Southern States; it feeds on rice, grains, the seeds of grasses, roots, aquatic insects, mast, and small fry. Whether on the land or on the water it is a beautiful and graceful object. On the wing it is direct and swift, having the whistling stroke more or less common to its near allies. Swimming or flying, the flocks move compactly, and so afford a good sight to the marksman.

The Widgeon may tarry with us till well on in April, and returns again from the north early in September, and may be seen through October. Pairing before starting for its breeding grounds, it has a soft, whistling or flute note—*szwee, szwee.*

Concerning its nidification, Dr. Coues says: "The Widgeon breeds in abundance in Northern Dakota and Montana, along the banks of the streams and pools. Some such places which I visited, the resort of many pairs of various Ducks during the breeding season, and of innumerable flocks during the migrations, resemble the duck-yard of a farm, in the quantities of moulted feathers and amount of ordure scattered everywhere. I was surprised to find young Widgeons still unable to fly, even as late as the middle of

September, at a time when all the other Ducks observed were well on the wing. Although this bird passes far north, many nest in various parts of the United States. Audubon notices its breeding in Texas, and others in the Middle States, about the Great Lakes, and in Oregon. Mr. Dall found it nesting along the Yukon with the Pintail." The Widgeon's eggs are 8-12, 2.00 × 1.50, pale buff.

THE SCAUP DUCK.

On the 16th I go about two miles westward along the lake shore in company with a friend to a place where a small stream enters the lake through a low tract of land, and, as the mouth is frequently closed with the stones and gravel thrown up by the waves, the waters thus obstructed form a large irregular pond, and afford a resort for Ducks, spring and fall. As we approach this pond we discover a flock of some half-dozen Scaup Ducks (*Fuligula marila*), swimming in a line, near the farther bank. In the act of swimming the white feathers of the sides are thrown up over the wings, so that the males appear white with black heads. How rapidly and gracefully they move!

Scrambling along almost on hands and knees we pass to the other side on a ridge of small stones and gravel now thrown across the narrow mouth of the pond, and follow a depression behind the opposite bank, thus coming within short range of the Ducks without being seen. We rise and fire, and only kill one Duck, which neither of us can claim with certainty. The rest of the flock fly out over the lake, which is lashed into fury by the wind, and instantly return to see what is become of the missing one.

The Scaup Duck, Black-head, or Blue-bill—for it is known by all these common names—is 16 or 17 inches in length, rather short and flat-bodied, with an unusually

broad bill of a clear light-blue; the male has the head, neck, shoulders, and breast black, with soft reflections of green and violet on the head and upper part of the neck, with a tendency to a broad, brown ring around the lower part of the neck; back white, crossed by broad zigzag lines of black; rump, tail, and wings black, the latter with reflections of green, and having the secondaries white, tipped, and slightly edged with black; tertiaries, and shoulders finely sprayed with white; under parts and sides white, the latter delicately touched with gray. The female, having a broad, white mark at the base of the upper mandible, has the entire upper parts grayish-brown, lighter about the head, neck, and breast; the ends of the feathers on the back sometimes delicately sprayed with white, or silvery gray; under parts white. The young males, resembling the females, may be found in all stages between, as they approximate maturity. The Scaup dives well for its food, a flock thus engaged affording a lively sight. They are by no means so shy as some of their kind; and, on being put up, do not generally fly far before alighting.

This Duck, common to the whole northern hemisphere, is found alike on fresh and salt waters, and is very common in this locality during migration. They appear on Niagara River in great flocks in the migrations, especially in April. Then they keep for the most part to certain feeding grounds, and have a peculiar way of huddling together, with a swarming motion which marks them from other Ducks even in the distance, and in some places has given them the name Flocking Fowl. As they rise from the water, their thick heads, short necks, and short, plump bodies, as also the plover-like markings in their wings, clearly distinguish them. Like the following, they remain on Niagara during severe winters. Mr. Maynard reports them as particularly

abundant in Florida during winter, "fairly swarming on the St. Johns and Indian rivers, gathering in such large and compact flocks, especially at night, that they are called Raft Ducks. In rising from the water, at such times, they make a noise like thunder. The earlier American ornithologists were aware of a great difference in the size of different Scaups in this country, and the later writers have separated them into two species, on account of this disparity in size. The specific name of the smaller kind is *Affinis*. Both kinds seem to have about the same distribution on this continent. They breed in British America and in Alaska, the nest being "very rude, a mere excavation with a few sticks about it." The nest has been found, however, on St Clair Flats, and there is a rumor that this species breeds regularly in the marshes along the south side of Lake Superior. Dr. Coues found them breeding in large numbers along the Upper Missouri and Milk River. The eggs, from 1.60×2.25 to 1.65×2.30 , are said to be ashy-green in color, of a dark tint peculiar to the species.

THE BUFFLE-HEADED DUCK.

Stealthily approaching the stream a little above the pond a few hours later, we discover a pair of Buffle-heads (*Bucephala albeola*), male and female, riding most gracefully down the current. Previous to seeing the male of this species on the water, I could not conceive the propriety of one of its common names, "Spirit Duck"; but so graceful is the puffed plumage of the head and neck, and so striking is the contrast of jet-black and snow-white, that on beholding the male float lightly, like a beautiful apparition, on the glassy surface of some pond or stream, one feels that the name is really descriptive.

Buffle-head, or Butter-ball, is some 14 inches long. The

head, excepting the broad, white band extending from behind eyes around the back of the head and upper part of the neck, including the long thick feathers of the latter, is black, with green and purple reflections; the back, tail, and greater part of the wings are black; remaining parts white. The female, which is still smaller, and destitute of the puffed plumage peculiar to the head and neck of the male, has the entire upper parts black, becoming ash on the breast and white underneath, and has a white mark on the sides of the head and in the wings.

A little while afterward I saw on Johnson's Creek a beautiful male in company with some half-dozen females. This is one of the commonest of our fresh-water Ducks. They are most common in April and October. During the former month they are quite common, in small flocks, on Niagara River. As a few remain in the State (New York) during winter, they are sometimes found on this rapid, open current during the coldest weather, probably being excluded at such times from the more quiet water-courses by the ice. It is a most expert and graceful diver, the male holding his crest closely before plunging. It is, indeed, a pleasing entertainment to watch a half-dozen of these Ducks—they never go in large flocks—diving in some open space among the great drives of ice-cakes along the shore. The young have been taken on the lakes of the Adirondack Mountains; but as "it usually retires to high latitudes to breed, as along the Yukon and elsewhere in boreal America, its nidification is not generally known. A set of 14 eggs taken, the accompanying label states, from a feathery nest in a dead poplar, some distance from the ground, furnishes the following description: Shape, perfectly ellipsoidal; size, slightly over 2 inches in length by $1\frac{1}{2}$ in breadth; color, a peculiar tint, just between rich creamy-white and

grayish-olive, unvaried by markings. Other eggs are described as being $1\frac{2}{3}$ long by $1\frac{1}{4}$ broad, and buff-colored." (Coues).

Not being as shy as some Ducks, and flying rather low, this elegant little species may be taken with tolerable ease.

As it lives largely on mollusks and small crustaceans, its flesh is not the most savory.

THE RED-BREASTED MERGANSER.

As I point my glass out over the great lake, lashed into fury by a strong northeast wind, I see a large flock of Red-breasted Mergansers or Shell-drakes (*Mergus serrator*) beating their way against the wind, and flying low over the cold, gray waters. As they skim the water in the distance, their long, slender head and neck, as well as the narrowness of their form in general, clearly mark their identity. Common both to Europe and North America, this species is with us in large numbers in late autumn and early spring, remaining during winter if the waters are sufficiently open. This is one of the most abundant species on the Niagara during April and the early part of May. Their long, slender, graceful figure, and the bright marking of the males, render them very conspicuous both on the water and in flight. On the water they are particularly proud and graceful, swimming lightly and swiftly, holding their heads high, and their long, loose crests playing in the wind. They seem to be paired on their arrival, the mates generally keeping with each other even in the largest flocks. The males, however, are quite inclined to turn aside occasionally, and give attention to other females than their own. At such times, as also when addressing their mates, they have a peculiar motion of the head and body. The male will approach the female, and stretch up his neck,

raising the fore part of his body out of the water, and, plunging forward, will make a low bow with a peculiar jerk of the head, expanding his red gape wide open, and lifting his tongue in a very noticeable manner. Feeding mostly on small fishes, these Mergansers dive readily and deeply, seeming to prefer rapid currents, against which they "hold their own" for hours while fishing.

Always partial to fresh waters, it bred in many parts of our Middle and Eastern States, in Audubon's time, he having found on two occasions the female in charge of her brood in the lower parts of Kentucky. It still breeds commonly from Northern New England and the upper regions of the Great Lakes, through New Brunswick, Nova Scotia, the Magdalen Islands, Labrador; Newfoundland, etc. It breeds sparingly throughout the great Northwest Territory, but Mr. Fortiscue does not record it from Hudson's Bay. The nests are placed on small islands in large bodies of fresh water, or near fresh water ponds, and along the margins of streams, in the tall grass or sedges, or under low bushes. Thus unlike the other Mergansers, which build for the most part in holes in trees, this species nests on the ground. The nest is made like that of a Duck—and Ducks' nests in general are very much alike—and, like it, accumulates quite a quantity of down as incubation proceeds. The eggs, 6-12, but sometimes as many as 18, are about 2.55×1.72 , oval, with strong and smoothly-polished shells, and of a greenish-brown tint. They are generally deposited from the middle of May to the middle of June or later, according to latitude. The young, elegant, little brown creatures, with white or grayish-white under parts, make for the water at once, and dive and swim with the utmost readiness.

"At the approach of autumn they resemble the old females; but the sexes can easily be distinguished by exam-

ining the *unguis* or extremity of the upper mandible, which will be found to be white or whitish in the males, and red or reddish in the females. The young males begin to assume the spring dress in the beginning of February, but they do not acquire their full size and beauty until the second year." (Audubon.)

The male of this species is 24 inches long, with bill carmine; head, crest and upper part of the neck black, with a green gloss; the rest of the neck white, with a black line adown from the crest; upper part of the back velvety black, lower part of the back and upper tail coverts an elegant gray, delicately penciled with black and white; wings and scapular black, finely marked with white; breast above a light chestnut-red, mixed with black; under parts white. He is truly beautiful. The female, having a less perfect crest than the male, is brown or brownish-ash above, the feathers edged with lighter; the sides of the head and neck reddish; the secondaries and greater wing coverts white, thin dark bases, forming dark bands on the wing; the under parts are white, the breast being tinged with gray; the iris is red, and the feet and bill are nearly so.

As is the case with other Mergansers, the male of this species has a curious enlargement and modification of the wind-pipe, the final cause of which seems difficult to explain.

In the more easterly migrations, and also in the breeding habitat above designated, the Red-breast is much more common than the rest of the Mergansers.

The long, slender, cylindrical, retrorse-toothed bill of the Mergansers, commonly called Fish Ducks, distinguishes the group clearly from the Ducks proper. Their diet also is more exclusively fishy, thus rendering their flesh unsavory. Their long, slender bodies, and the hindward position of their feet, specially adapt them to the pursuit of their prey

under water. The group contains only eight species the world over. They are mostly in the northern hemisphere, some two species having been found in South America. The beautiful Smew or White Nun of Europe is only accidental in America.

THE RING-NECKED DUCK.

On my return from Lake Ontario, I find that a friend has shot a pair of Ring-necked Ducks (*Fuligula collaris*) on the New York and Erie Canal. This species, which is peculiar to North America, is a rather rare migrant in Western New York, as also in the central parts of the State, and to the eastward generally. In size and shape, including even the shape of the bill, it is very nearly related to the Scaups. In color, also, the females of the Scaups and Ring-neck are very similar, both being of a light brown, and white underneath. The former can readily be distinguished, however, by her white band at the base of the upper mandible, while the latter has the white band only at the base of the lower mandible. The male of the Ring-neck is distinguishable from that of the Scaup by the dark brown of the entire upper parts; by his gray speculum, his chestnut ring around the middle of the neck, but more particularly by the two almost white rings around the dark bill, the one at the base and the other near the tip. The Ring-neck bears a close resemblance to the Tufted Duck of Europe, and for some time was supposed to be the same. Rising readily out of the water, it flies rapidly and high, producing a whistling sound with its wings. Not appearing in large flocks, only some fifteen or twenty being seen together at a time, they fly rather scattered, and so afford but a poor mark to the slaughterer. Diving for their food after the manner of the Scaups, they subsist on crays, small fishes, snails, frogs,

aquatic insects, and roots and seeds of grasses. When feeding along ponds and streams, they become fat, tender and luscious. Very little seems to be known of this Duck's breeding habits, the single brood found in Maine, and the single nest of eggs reported from New Brunswick, being regarded as stray cases. Mr. Fortiscue does not report it from Hudson's Bay; reports from the great northwest territory do not mention it, and Dr. Coues is silent as to its breeding in the northwestern States and Territories.

In 1876, May 27th, the nest was found by Thos. S. Roberts, of Minneapolis, Minn., in Hennepin County, about eight miles from the city. It was pretty substantially built and well finished, on the top of a pile of rotten *debris*—perhaps the remains of an old muskrat-house—and was lined with fine grasses, with a little moss intermixed, and a neat trimming of down. The nine eggs, some 2.23×1.60 , were smooth, and “of a light greenish-white color.”

THE BARN SWALLOW.

On the 19th of April I observe the first Barn Swallows (*Hirundo horreorum*). About 4.50 long, this swallow is readily distinguishable from any other by its extensively forked tail, and by building its nest inside of the barn on the sides of beams and rafters; and is so well known to every one, as scarcely to need description or historical record. Who is not familiar with its swift, sailing flight, the widely spread tail, its manner of gliding in through open doors or windows, or the small, diamond-shaped opening in the gable of the old-fashioned barn? Lustrous steel-blue above, which color extends down the sides of the breast in the form of an imperfect collar; belly, reddish white; breast and forehead, chestnut, he is differentiated from the Cliff or Eave Swallow, not only by the *furcate* tail, but also by the

white spots in the inner web of the tail feathers, thus forming a sort of sub-marginal band; and by the absence of the white spot on the forehead, from which is no doubt derived the specific name of *Lunifrons*, given in identification of the other.

Sometime in the latter half of May the Barn Swallow's nest of mud, lined with straw, feathers, etc., is built—unless, as is frequently the case, the same birds return to the uninjured nest of the previous year—and four or five eggs, some $.75 \times .55$ of an inch, white, specked with brown, are laid. In due time, the full-fledged young are seen perched in a row on the edge of the half-bowl nest, the free brim of which is strikingly different from the jug-nose entrance to the nest of the Eave Swallow. This row of younglings, often occupying the entire edge of the nest as they sit with tails inward, are exceedingly noisy on the appearance of the industrious parents, and swallow eagerly the food deposited in their wide-open mouths by the parent bird as she hovers in front of the nest. I wonder if the capacious mouth and gullet of the Swallow, so convenient for taking its insect prey on the wing, did not procure for it its common name! It would seem altogether probable, though I cannot find anything on the point in either dictionaries or works on ornithology. Every part of the world has its Swallow or Swallows of some kind, and every species of this family is noted for that peculiar twitter, so strikingly conversational, that the Greeks applied the name of the Swallow as an epithet to designate the jargon of barbarian tongues. Listen to those prolonged twitterings of the Barn Swallow's family in the nest, and afterward about the beams and rafters of the barn, and again as several families perch in long rows on the telegraph wires, previous to migration! Do they not sound like veritable sentences of some unknown lan-

guage, uttered with great spirit, and intermixed with strains of merry laughter? Already in the olden times Virgil noted the "Swallow's twitter on the chimney-tops." Bryant, of our own times, sings of "the gossip of Swallows through all the sky;" and Tennyson tells how the Swallows "chirp and twitter twenty million loves."

The Barn Swallow sometimes raises a second brood in late June or early July. Mr. Burroughs says: "A friend tells me of a pair of Barn Swallows which, taking a fanciful turn, saddled their nest in the loop of a rope that was pendent from a peg in the peak, and liked it so well that they repeated the experiment next year."

This American Swallow occupies North and Middle America to the arctics, and spends the winter in the West Indies. There is a closely-allied variety, probably of the same species, *Erythrogaster*, in South America.

THE ROUGH-LEGGED HAWK.

About the middle or twentieth of April, sailing low and slow over some wet field or marsh, or along some streamlet, much resembling both in size and movement the Red-tailed Hawk, but readily distinguished by the large amount of white in his expanded wings and tail, and plumage generally, we occasionally see the Rough-legged Buzzard or Hawk (*Archibuteo lagopus*). It is simply a passenger to the north, breeding, as is supposed, entirely beyond the Union; returning to us again about the last of October or the first of November, and wintering farther south, in the seaward portions of the Middle and Southern States, but not beyond. As a passenger, it is by no means rare here.

The male about 20.00 and the female about 22.00 long, this species, common to both Europe and America, is always to be determined by its thickly-feathered

tarsus. Above, the feathers are a deep, rich brown, edged for the most part with light-red and whitish; feathers of the head and neck, yellowish-white, with a streak of brown in the center; breast, femoral and tarsal feathers, yellowish or buff, sometimes white; tail, toward the base, including under coverts, white, dark-brown toward the tip. It is characterized by a broad abdominal band of rich dark-brown, forming a beautiful apron. In the more easterly part of its habitat, our American Rough-leg shades into a beautiful dark variety, *Sancti-johannis*, often called the Black Hawk.

This bird is particularly drowsy in its habits, resting motionless for a long time on its perch, preferring to take its low flight in dark days, or in the evening twilight. According to Sir John Richardson, it "is often seen sailing over swampy pieces of ground, and hunting for its prey by the subdued daylight, which lightens even the midnight hours in the high parallels of latitude." This habit, as also its thickly feathered tarsus, reminds one of the Owls. Its bill of fare is given as consisting of field-mice and other very small quadrupeds, lizards, frogs, even insects, and rarely birds. On the second day of last November, one of these Hawks killed a domestic fowl straying in the field in this vicinity. Immediately a trap was set, baited with the remains of the hen, and in a few minutes the Hawk was caught by the foot.

The nest of this species, built of sticks, is placed in tall trees, sometimes on cliffs. Its three or four eggs, 2.33×1.75 , are dull-white or creamy, smirched or blotched with brown.

Wilson, who found these Hawks numerous in winter, below Philadelphia, between the Schuylkill and the Delaware, reports them as making a "loud squealing" as they arose on being disturbed, "something resembling the neighing of a

young colt, though in a more shrill and savage tone." Cooper also speaks of their calling to each other with a "loud scream."

THE SAVANNA SPARROW.

From the 15th to the 20th of April, the Savanna Sparrow (*Passerculus savanna*) arrives in these parts, and is an abundant resident until late in October or early in November. About 5.50 long, with the common marking of the Sparrows above, white beneath, breast thickly spotted in streaks, this is one of the lighter colored Sparrows, and is always distinguishable by means of its yellow streak over the eye and yellowish wash on the cheeks, combined with the spotted breast, none other of our Sparrows having both of these characters. It has also a little yellow on the edge of the shoulder of the wing. In its colors and markings generally it resembles the Bay-winged Sparrow in the distance, but is readily differentiated by its smaller size, and the absence of the white in the outside feathers of the tail. It has the sharp chipping note of its family, but its song is strongly marked, and may be represented by the notes, *zip-zip-zip-zwree-e-e-e-e-e*, *zwree*, the first three being short, subdued, and uttered in quick succession, while the fourth is louder and drawn out into a sort of trill or twitter on the upward slide, and the latter is much shorter, and with the falling inflection. The song is not loud, and has but little variation, but is one of those gentle, drowsy sounds in nature which are decidedly soothing. While this species is not generally dispersed, it seems almost to monopolize certain upland fields and meadows, in which places its melodies are almost the only bird-song to be heard. Being strictly terrestrial, almost never rising above the fence, and keeping so closely to the fields as scarcely ever to be seen in the highway, thus being very unlike the Bay-wing, its nest is sunk into the

ground like that of the latter, but is much more thoroughly concealed in the weeds or tall grass. It is slight, and composed almost entirely of dried grasses. The eggs, 4 or 5, often not more than 3, about $.76 \times .54$, are greenish or grayish white, spotted and blotched with light brown and lilac, especially about the large end where the markings may become coronal. Sometimes the markings are dark brown, and become so thick as almost to conceal the ground-color. There are evidently two broods, the first in May and the second late in June. The bird leaves the nest quietly, and runs along in the grass apparently without alarm, even gleaning her food as she goes.

The Savanna Sparrow has always been regarded as particularly numerous near the sea-coast, breeds from Maryland and corresponding latitudes northward, and winters in great abundance in the Southern States.

The Ipswich Sparrow (*Passerculus princeps*), first reported by Mr. Maynard, and since found to be a rather common migrant from the north late in the fall, some remaining in New England during the winter, may be simply a more northern variety of the Savanna Sparrow, than which it is a little larger, and paler in color and markings.

THE SWAMP SPARROW.

As early as the 22d of April, in the marshes of Tona-wanda Swamp, I have heard the song of the Swamp Sparrow (*Melospiza palustris*). The exact notation is difficult to render in syllables. Nuttall speaks of it as "a few trilling, rather monotonous, minor notes, resembling, in some measure, the song of the Field Sparrow, and appearing like *twé, tw' tw' tw' tw' tw' tw' twé*, and *twl' twil' 'tw tw' twé*, uttered in a pleasing and somewhat varied warble." I would add that the trill is in a clear, whistling tone, sound-

ing like *tswee-tswée-tswée-tswée-tswée-tswée-tswée-tswée*, quite sibilant, the notes being essentially the same as those of the Chipping Sparrow, only in much more prolonged and musical tones—a sort of enlarged and improved edition of it. Its common chipping note, too, has something of a whistling tone, rather than any hoarseness, such as is sometimes ascribed to it.

Some 5.50 or upwards in length, the upper parts are a rich reddish-brown, streaked with lighter and with black; wings deeply edged with clear brown; chin and belly white, tinged with ash; breast and sides washed with brownish, resembling the Song Sparrow somewhat, but smaller and less streaked, and without the spotted breast. It is of a warmer and more uniform brown than any of the rest of our Sparrows.

The ordinary situation of the nest, according to the best ornithologists, is on the ground, after the usual manner of the Sparrows; but sometimes, especially if the ground is wet, in a bush, or tussock of sedges. I think the latter is the much more common situation of the nest. One which I found in an open, wet marsh of Tonawanda Swamp, on the 25th of May, was built into a thick tussock of sedges and cat-tails, about a foot from the ground. It was in the form of an inverted cone, some seven inches long, made of coarse grasses and stubble, laid in rough angular style, seeming to consist of several sections, the rim being very uneven, with points sticking up in every direction, reminding one of some rustic picket fence. It was lined with dried grasses, which were a little finer than those used in the outside. The eggs, four and sometimes five, about $.77 \times .51$ inch, are greenish-white, finely and thickly specked, sometimes brushed with brown.

I almost failed to identify the nest above referred to.

As I approached it the female slid over the side of it into the sedges and cat-tails, skulking along on the ground like a mouse; but, as she crossed an open ditch, she paused to look at me a few moments, and thus gave me the opportunity of recognition.

A nest from Nova Scotia, now before me, was taken from a tuft of tall marsh-grass, and is altogether of fine dried grasses. Neatly cup-shaped, its walls are thick and compactly laid, and through the bottom it is deep and dense. From the points and angles of dried grasses leaning in almost every direction around its edge, it is of the same picket-fence style as the one above described, and the eggs are similar.

This bird seems confined to Eastern North America, breeding from the Middle States to Labrador, and wintering in the Southern States. It is quite shy and retiring, its residence being strictly confined to the swamps and their marshy vicinity, where it raises two broods in a season. I found it very abundant among the sedges and tall grasses of the flooded mashes of St. Clair Flats.

THE YELLOW-RUMPED WARBLER.

On the 22d of April, as I paddle a light boat along the meandering course of a stream of glassy smoothness in Tona-wanda Swamp, in the shrubs and bushes, which are densely thick along its margin and form a belt between either side of the stream and the tall forests in the immediate vicinity, I spy a Yellow-rumped Warbler (*Dendroica coronata*). It is a fine male flitting leisurely about; the movement of this species being always rather slow and dignified for one of its kind.

About 5.50 long, he is of a fine ash or slate color, streaked with black; line over the eye, lower eye-lid, throat, wing-bars, spots in the outer tail-feathers and belly, white;

cheeks, and spots across the upper part of the breast and adown the front, black; crown, rump and sides of the breast by the wing-shoulders, bright yellow. Does that golden crown on his head mark him as a king? or do those bright epaulets designate him as a general-in-chief? However that may be, his dress of drab and black, ornamented with gold, affords a striking and most elegant contrast of colors; and his size, song, general dignity, and priority of arrival entitle him to be the leader of his large and beautiful family, altogether peculiar to America, and of his numerous genus, also peculiar to North America; none of his genus, or family, arrive earlier than he, unless, indeed, it may be the Yellow Red-poll or Palm Warbler, which is exceedingly rare here; the warblers of the Old World, among which Robin-red-breast and the far-famed Nightingale are conspicuous, being much more closely allied to our Kinglets than to the great family of their American namesakes. The female is similar, but not so bright, and the young are brownish instead of slaty, the yellow markings being quite dim. This is one of our most beautiful, as also one of our most common, warblers. Appearing in the Middle States, and in Southern New England, about the 20th of April, it passes to the north in considerable numbers for a month or more, returning southward again late in October or in November.

The Yellow-rumped Warbler, or Myrtle Bird, breeds from Northern New England to the arctic regions, and northwestward to Alaska and Washington Territory. The nest, in a bush or tree, often an evergreen, and but a few feet from the ground, is about four inches in external and two in internal diameter, and composed of weed-stalks, vegetable fibers, rootlets or grasses, often lined with feathers or hair. One before me, from Lunenburg County, Nova Scotia,

taken June 16th, and pretty well incubated, was found in a spruce bush, about three feet from the ground, and contained two eggs. Of about the usual external and internal diameters, and quite deep—some 2.50 inches—externally it is composed entirely of fine bleached grasses, and lined with a continuous and thick felt of dark-red cow's hair, such as is seen in large quantities about the stumps in spring, being rubbed off by the cattle in the first sloughing of their thick coats. Thus the nest has a very unique appearance—almost straw-color outside, and uniform dark-red or bright-brown inside. Whether of weed-stalks, vegetable fibers, rootlets or grasses, it would seem that the nest of this species is generally quite homogeneous, that is, made externally, at least, of the one kind of material. The eggs of the above nest are of the usual measurement—.72 × .54, grayish-white, pretty heavily marked about the large end, and specked all over with dark-brown and neutral.

Though often getting well up among the tall trees, and taking somewhat extended excursions into the air after insect prey, the Myrtle Bird is not so active on the wing as are some of the Warblers. In spring it has a somewhat loud and pleasing warble, *tswee-tswée-tswée-tswée-tswée-tswée-tswée*, and so resembling a musical twitter. Indeed, I have often found it difficult, when visiting the breeding grounds, to distinguish it from the song of the Snow Bird. In its migrations in the beautiful days of autumn, this Warbler is sometimes wont to lisp its song softly. Though this bird breeds so far north, its nest has been found in the Southern States and in the West Indies; and while it winters in the Southern States, and even in the tropics, it is found regularly in the same season in the Middle States, and even in Southern New England. There is a closely-allied western variety or species, called Audubon's Warbler.

CHAPTER XI.

LATE IN APRIL.

ON the morning of the 21st of April (1880), as I am riding along the highway by the upland meadows, I spy a Sparrow Hawk (*Falco sparverius*), perched on a tall dried mullein-stalk, close to the road. He keeps his perch till I am not more than four rods from him, partly because he is the tamest of all the Hawks, but more especially because I am riding. Flying off in an irregular zigzag manner, and not very high, he alights in a small, solitary tree in the open field. I stop to study him. Presently he starts out from the tree, flying in his somewhat tipsy manner for a few rods, giving the impression that he is not after anything in particular, when he suddenly hovers gracefully for a few seconds, and retires to the tree again. Evidently he had it in mind to capture some little creature within the range of his keen eye, but the chase did not turn out to suit him, so he has concluded to await the next opportunity. In less than a minute he sallies forth again, barely hovers, and drops to the ground, returning to the tree with some small prey, which, as I turn the glass upon him, I discover to be a field mouse. Holding it under his claw, he tears it in pieces and swallows it with a keen appetite, and in a few minutes more is off again in a similar manner, this time returning with an elegant little snake; which, after munching it pretty thoroughly with his toothed bill, and stretching it out several times

with bill and claw, he swallows, with vigorous jerks of the head, nearly whole. Again he is off, and after hovering several times, spends some time on the ground, devouring something as I can plainly see by his actions, made clear by the glass; probably he is now varying his diet with some kind of insects, of which he consumes great numbers, especially such orthoptera as are most noxious to the husbandman. Remaining now longer than usual on his perch, he jerks his tail every few seconds, as if decidedly impatient of this long quiet. Now he flies almost towards me, and dashing into a thicket by the road-side, emerges with a small Sparrow in his clutches, thus proving himself true to his name. The flight is within close range of a shot-gun, and, much as this elegant and useful little Falcon merits human protection, I reflect that all things—even birds—are made for man, and so drawing the lock on him bring him down, the Field Sparrow still in his clutches. It is a male, some 10 inches long and 21 inches in extent (the smallest of our Hawks); the bill is particularly pointed and toothed; the top of his crown is reddish-chestnut, bordered with slaty, mixed with black; a streak from below the eye down the side of the throat, one across the tips of the ear-feathers, a spot on the side of the neck, and a bordering of the slaty behind the neck, black—making seven black marks about the head; back and scapulars reddish-brown, crossed with broken lines of black; wings slaty with black spots; the primaries dusky, with white spots on the inner vanes; tail reddish-brown, with a broad, sub-terminal band of black and a slight tip of white, the outer feathers being marked with black and white; under parts reddish-white, with a few roundish spots of black mostly towards the sides; bill, blue; cere and legs, yellow. The female of this species is about an inch longer; the chestnut-red on the

crown being streaked with slaty; the upper parts, including the tail, wholly reddish-brown, heavily cross-streaked with black; the under parts yellowish-white, streaked with light-brown; the chin, femoral feathers, and vent, clear; otherwise, like the male. The young are said to be covered with a whitish-down at first, but soon approximate the colors of the mature birds.

The dashing attack of our little Falcon, through thickets and along hedges, is not only upon Sparrows, but upon the smaller birds in general. Not only the elegant Bluebird, the stately Cedar Bird, and the noisy self-conceited Cat-bird, may become its prey, but even the Robin, the Brown Thrush, and the Blue Jay—birds almost as large as itself. Unlike the true Hawks, and some other species of its family, it does not give a long chase in the open field after its prey, but, in strict pursuit, stealthily seeks the covert of bushes or hedge-rows, or it pounces upon the innocent passer-by unawares. Seldom, indeed, does it affect the barn-yard, and then only to pick up a stray chick too remote for parental interference; and since by far the greater part of its fare consists of noxious vermin, it merits—as indeed it often obtains—the sympathy and protection of man.

The Sparrow Hawk generally reaches New York from the south about the middle of April or before, sometimes even as early as March, but becomes most common early in May, when the flood-tide of the migration of the little birds is fairly set in. Then it may frequently be seen about the fields and pastures, or even passing leisurely over the crowded town, with a peculiar butterfly locomotion; and may always be distinguished from the Sharp-shinned Hawk, so near it in size, by its long-pointed wings, the Sharp-shin having rather short and broad wings. Courtship, which in the case of young males is said to be much varied

and protracted in its antics, begins very soon; and about the latter part of May or early in June the eggs are laid. As this bird breeds, however, from Mexico to Hudson's Bay, and from Maine to California, its time of nidification varies considerably according to locality. It is well understood that it generally breeds in some cavity or deserted Woodpecker's hole, pretty well up in a tree or stub—often a solitary one in the open field; and that its eggs are laid on the pulverized debris, with, perhaps, the merest litter of some strawy material; but it may adopt the old nest of a Hawk or Crow, may seek out a hole in the wall of some unfinished stone building, accept the old nest of the Gray Squirrel; or, as in "the canons of the eastern range of the Humboldt Mountains," may find a convenience for its nest "in hollows of limestone cliffs"; or may even find its way into an apartment by the dove-cote.

The eggs, generally five, some 1.32×1.13 , are brownish-white, specked all over, but often more about the large end, with reddish-brown; but not infrequently the ground is white or pinkish-white, with large blotches and intermediate specks of light red all over—the eggs having a peculiar reddish appearance. Rarely, they are said to be whitish, without any marking.

Unless very seriously disturbed, these Hawks occupy the same nesting place from year to year, the male sharing in incubation. They defend even their eggs with dashing flights, snapping of the bill, and indignant screams at the intruder. The young, brought out from the shell in about 15 or 16 days, are fed on grasshoppers, crickets and caterpillars at first; but afterwards are nourished by small reptiles, birds and quadrupeds. At about six weeks of age they quit the nest, and when two months old they shift for themselves. This Hawk accepts no food but that of its

own capture, and will even reject such as is infected with parasites. It may go far beyond our southern limits in winter, but it is not found in the highest latitudes of North America in summer.

THE BLUE-WINGED TEAL.

On reaching a beautiful large pond, an enlargement of Oak Orchard Creek, in the edge of the wilderness of Tona-wanda Swamp, I seat myself behind a small screen of rails and bits of board in the corner of the fence, for observation. It is a beautiful sunny day, with a remarkably clear sky for the month of April. About ten o'clock in the forenoon a small flock of Blue-winged Teals (*Querquedula discors*) fly down the narrow, glassy stream, and alight on the farther side of the pond. How straightforward and swiftly they fly, their narrow-pointed wings beating the air with a gracefulness and rapidity truly wonderful. Generally the Teals reconnoiter the place in cautious, circling flights, before alighting; but this is a very retired spot, where this flock has no doubt fed undisturbed for some time; hence, without this ordinary precaution, they drop gently down with rigidly expanded wings, and, having glanced about them, soon immerse their heads in search of the *naias flexilis* and other species of the pond-weed family luxuriating in these quiet waters. Occasionally they throw up their feet and hinder parts in feeding, but generally float quietly on the water, simply plunging the head and neck. Every now and then they change their spot for feeding, swimming so gracefully and rapidly that they seem almost like an apparition on the smooth surface. The tranquility of the place on this beautiful sunny morning is perfect. There is apparently not the slightest cause for the suspicion of danger, and the little flock of Blue-wings seem completely off their guard.

I cannot detect any vigilance whatever on their part. They are too far off for a shot, and this I do not particularly regret, for I am not a pot-hunter, nor a mere anatomic naturalist. I simply like to know what transpires in such remote and quiet nooks, and how these elegant little Ducks behave in their undisturbed haunts. I note the elegant form and delicately-penciled coloring of the males in this little flock of Blue-winged Teals. One of the smallest of our Ducks, it is only 16 inches long and 31 in extent of wings, with small head and bill and a slender neck; his crown, with a narrow line down the hind neck is black; there is a white crescent in front of the eye; the head is a purplish glossy drab; the back and scapulars deep dusky, with concentric wavy lines and tips of reddish; back deep dusky, edged with drab; longer scapulars and the tertiaries, greenish-black with medium line of red; wing-coverts ultra-marine, with a line of white between them and the glossy green secondaries forming the speculum; the dusky tail has a white spot on each side, with the under-coverts black; breast and under parts reddish, elegantly spotted with black. The female, about an inch shorter than the male, has the plumage generally dark brown, margined with brownish-white; the cheeks and throat whitish; wing-coverts not quite so brightly ultra-marine as in the male; the dusky-brown feathers of the under parts have a brownish-white streak or spot in the center. The female does not have the white crescent in front of the eye. The young are like the female, and the old males return in the fall migrations without the sexual markings.

Lingering with us even into May, and returning early in September, this Teal is one of the last of all the migratory Ducks to leave us, and about the first to come back from its more northerly breeding grounds. Though extending far north, even to Alaska, in the breeding season, they have

been known to rear their young within our limits, as well as in all suitable places intervening. Being a vegetable feeder, and a fresh-water bird, it avoids not only the salt water, but also the cold, clear, rock-bounded waters of the northern interior, resorting to the mud-flats of great rivers, the quiet, marshy borders of our lakes, sluggish streams, and ponds abounding in vegetable growths. In late fall and early spring it is said to be abundant in the flooded rice-field of the south. Except in the coldest weather, Audubon testified to its great abundance about the mouths of the Mississippi in winter; while Wilson speaks of large, dense flocks in their migrations, on the muddy shoals bordering the Delaware. Swimming or flying, the birds keep so close together in the flock that great numbers may be taken at a single shot. I have seen them scouring the shores of Lake Ontario in great flocks in September, so densely massed in flight as to appear almost like a cloud, and passing with the swiftness of the Wild Pigeon. At such times their flight is truly elegant, the lustrous light-blue of their wings glistening like polished steel in the sunshine. In spring, one may occasionally catch their soft, lisping notes. Being sensitive to the cold for birds of their kind, like our delicate birds of song, they often pass portions of the winter even in the tropical regions. After the manner of the Ducks in general, the Teals are wedded in the latter part of winter while yet in the south.

The nest of this species is on the ground on some prairie, or in some marsh, generally near the water, is made of dried grasses, sedges and weeds, and lined with down. The eggs, some eight or more, about 1.75×1.31 , are very smooth, and of a dull, creamy white.

Being a vegetable feeder, the flesh of the Blue-winged Teal is tender and luscious, and is therefore a great desid-

eratum for the table. West of the Rocky Mountains it is replaced by its near relative, the Cinnamon Teal.

THE GREEN-WINGED TEAL.

Tagging after the little flock of Blue-wings at a distance of a few yards, like some stray and unwelcome relative, was a solitary male of the Green-winged Teal, his flight being very similar, and his place of alighting only a few rods distant and much nearer the shore. Excepting certain aquatic insects and minute mollusks, the food of this species seems to be nearly terrestrial—consisting of the seeds of weeds and grasses, berries and small nuts. Hence it feeds in the very edge of the water, floating deeply, and plunging the head and neck, and not infrequently stepping out on the land, where it walks quite gracefully. In the air and on the water its movements are very similar to those of the Blue-wing; and, except that it is rather hardier and more northerly, reaching us somewhat later in autumn and leaving us earlier in spring, its habitat and migrations are almost the same. It, too, for the most part, avoids the sea and the clear, rocky lake regions, preferring such flooded fields, sedgy streams, ponds and lakes as bring it in contact with its favorite vegetable growths, especially such bodies of water as abound in the wild rice.

Second only to the Wood Duck in beauty is the male of this elegant species. Some fifteen inches long, and twenty-four in extent, the head and upper part of the neck are bright chestnut-brown, the throat dusky, and a patch from before the eye to the nape, glossy green; the pendent crest being brown above and black below; back, tail and greater part of the wings, dusky; the speculum, elegant glossy green, bounded with jet-black above and below; several of the scapulars edged with black; epaulets white; the rest

of the upper parts most elegantly white and black penciled; breast vinous ruddy, finely spotted with black; under parts buffy white, with patches of clear white and coal black about the tail. The female has the entire head and neck dingy white, speckled with black, the breast grayish-brown, spotted with darker; the back deep brown, crossed with broad, wavy lines of brownish-white.

Having thoroughly observed this solitary Green-winged Teal, I rise to my feet, when he takes alarm, rising from the water at a single bound, and coursing through the air amidst the tall tree-tops with most surprising rapidity, is almost instantly followed by the Blue-wings.

The nidification of this species is precisely like that of the latter, except that the eggs are a trifle larger, about 1.90×1.32 . The nest may be found from the northern borders of the United States northward.

WILSON'S SNIPE.

It was the evening of the 22d of April (1880). All the afternoon I had heard firing of guns in the wild meadows of Tonawanda Swamp. As twilight approached and the firing ceased, the air became resonant with the vernal chant of Wilson's Snipe (*Gallinago wilsoni*). In every direction the birds might be seen, describing their ascending and somewhat spiral curves with that nervous beat of the wings, so peculiar to themselves, while others, too high to be discerned in the dusky air, added not a little to the general vocal effect. This song of the Snipe, characteristic of the breeding season, or even of the entire spring, and heard for the most part in the early morning, or in the evening from twilight till after dark, is at once striking and strongly differentiated. Beginning in subdued tones, somewhat like the sounds produced by the oblique strokes of a Pigeon's



WILSON'S SNIFE.

HAWLEY Sc.

wings in alighting, the simple notes are uttered rapidly, and through an ascending scale of nearly an octave in the shortest chromatic steps, the mellow tones being rather loudest in the middle of the strain and gradually softening to the closing and highest note, the whole performance being after the manner of a swell in music. The notes might be readily represented by the repetition of the syllable, *koo-koo-koo-koo-koo-koo-koo-koo-koo-koo-koo-koo-koo-koo-koo-koo*; and though not decidedly musical, they have in them the tenderness and inspiration of spring, readily associating themselves with April showers, balmy atmospheres, springing grass, and that northern harbinger of spring-flora—the blooming *amelanchier*.

Here and there, on the evening referred to, one might see the Snipes alighting—dropping slowly and gracefully down on a falling curve, their wings extending upward at an angle of some ninety degrees. Generally they disappeared among the bleached grass and sedges of the previous year standing in several inches of water; but occasionally they perched on old stubs, making an odd figure among the gay Red-wings just greeting the newly-arrived females with the merriest and sweetest of Blackbird songs.

How vividly I recall the odd antics of the Snipes in the wild meadow on the old paternal farm in Nova Scotia. How gratifying to childhood curiosity was it to hide away in the alder bushes and watch him as he took his morning or evening repast. See him walk—almost run—with nimble, easy steps; his long bill—*schnepfe*—which, in the old Saxon language, gave the bird its name, pointing obliquely forward and downward, and his short tail somewhat thrown up. Now he probes the soft mud, pushing his limber bill down half its length or more, and testing almost every square inch for quite a distance around, the delicate external membrane

of that strongly specialized instrument, well supplied with the most sensitive nerves, readily detecting the presence of earth-worms, or such tender roots of plants as are agreeable to the bird's taste. How queer he looks now, standing in that half-crouched position, as if intently listening; or, how pleasing as he stands at ease, one foot raised, and his backward eyes peering weirdly. Or note him as he approaches the coy female half-hidden in the faded grass so near her own color. Bending forward with neck shortened and curved till his breast and the tip of his bill nearly touch the ground, the tips of his loosened and drooping wings dragging at his sides, and his elevated tail spread out like a quaint little fan, he struts before her as gay as a Turkey-cock in miniature. Should anything alarm him, he will scamper away quite a distance into the thick grasses and sedges; or, if he be hard pressed, he may take wing, and, rising a few feet into the air and emitting his characteristic "*How-Ike*," fly in a nervous zigzag manner for a few rods, and quickly drop out of sight. This short and rapid flight is the supreme moment for a shot. And if anything will send one's blood tingling to the tips of fingers and toes, it is to drop this noted creature of the bog and fen just as he gets fairly under way.

Many a time in boyhood, as I searched for the cows in the wild meadow close by the stream meandering through the alders, did the Snipe leave her nest just under my feet. Merely glancing at the warm, grayish-brown eggs heavily blotched with umber—the four pear-shaped objects lying with the small ends together in a mere depression of the ground on a few leaves or dried grasses—I would start after the artful bird in her moods of distress. Surely thinking her sick or wounded and ready to die, as she tumbled and fluttered about on the ground only a few feet from me,

wheezing and moaning in the most distressed manner, I would scramble and strive to my utmost to capture her; but after decoying me a few rods from the nest she would soon recover and skulk away into the bushes, leaving me to my own cogitations, as I stood some half-way between her missing self and the nest now wholly lost sight of.

It would seem that only the female attends to the duties of incubation, the male being cognizable in the vicinity at all times of day, and sometimes giving his aerial serenade as late as eleven o'clock at night. The eggs are about 1.60×1.12 , the yellowish or grayish-olive color varying considerably in different clutches; the dark umber and obscure spots and blotches extending more or less all over the shell, but thickening and enlarging at the large end. The young, of a grayish-yellow, heavily streaked with several shades of brown, according to the precocious habits of the infant Waders, leave the nest as soon as they are out of the shell, feeding on the insects found in mud, moss and meadow-grass, until their tender bills are firm enough to probe the soft ooze.

As is the case with the European Snipe, which ours so closely resembles, Wilson's Snipe is one of the most fascinating of game-birds to the sportsman. Mark this happy specimen of the human race, as with hip-boots, trusty gun, full accoutrements, and faithful pointer, he creeps stealthily through the tall sedges! The dog alone has that high sensibility of the olfactory nerves which can take the subtle scent of this noted game-bird, but his master is all eye and ear to see in what direction the bird will lie to the dog; and so when the bird is put up he is ready to take it in its quick, short, and rather irregular flight, with that ready skill which consummates the pleasure of a genuine sportsman. And if he bring home his game-bag well filled with

Snipe, he considers the hardest day's tramp well rewarded.

The Snipe is 11 inches long, bill $2\frac{1}{2}$ or more, grooved on the sides, enlarged at the end, and though smooth in life, becomes marked like a thimble when dried. The crown is deep brown, with median line of brownish-white; sides of the head light reddish-brown, with a dark brown streak from the nostril to the eye, and a whitish spot above, and one in front of the eye; upper parts deep brown, specked, spotted and streaked with reddish-brown and white; wings dusky brown; fore-neck and breast brown and buffy-white, spotted and waved; tail chestnut-red, marked with black and white; under parts white; sides barred with black. The female is a little lighter colored than the male.

THE LARGE YELLOWSHANKS.

Firing into a flock of Rusty Grakles, gleaning food from the ground bordering a flooded field in the vicinity of Tonawanda Swamp, on the 30th of April (1880), I roused a flock of some fifty of the large Yellowshanks (*Totanus melanoleucus*). They rose in the most excited manner only a few rods from me, emitting their loud whistling notes, *cree-oo, cree-oo, cree-oo*, the volume of which, coming from the whole flock, might well alarm all the feathered tribes in the neighborhood, thus making good their reputation among gunners as Telltales, or Tattlers. With the long bill and neck stretched forward, the long legs extended backward, and the long-pointed wings forming gull-like arcs in their rapid, steady beating, this flock, circling swiftly over the field several times and then fading out in the distance, makes one think of the sea and its multitudes of water-fowl.

Knowing that these birds will soon be back, I hide behind the fence, ready to give them a salutation. In about half

an hour they reappear like black specks against the gray clouds. In a few seconds I can define them clearly above the tall forest, and can hear the clangor of their peculiar voices; after circling several times over the inundated field they alight about three gun-shots off, each pair of wings pointing straight upward for a few moments, as if to be sure that every feather is in place before folding. For a few moments they glance around to assure themselves that all is safe. Then wading about in a hurried manner, half-way to their bodies in water, with much balancing and vibrating of the body and graceful darting of the head in various directions, they seek their food of aquatic insects, worms, minute mollusks and tiny fishes. Creeping along stealthily behind the fence till I arrive within shot-range, I wing several with one charge. The flock, rising and scattering for a few moments, as if disconcerted, come together and hover over their wounded comrades as thickly as wings can vibrate among each other, calling to them most pitifully. Strange to say, I pointed my gun at the hovering cloud, and who can tell what might have been the consequences had it not failed to go off. This hovering over wounded companions, common to various kinds of water-birds which go in flocks, is a most affecting manifestation of fellow-sympathy; but it is very fatal to them, giving the rarest opportunity to the second barrel of the sportsman. The wounded Yellowshanks push their slender shins through the water with surprising rapidity, make a fair attempt at swimming, and put their heads under the water when closely pursued, but do not understand the art of diving. I learned from the people in the neighborhood that these birds had occupied this feeding ground continuously for several weeks, and that they did not remain long after this. Wintering in the Southern States and in the West

Indies, and breeding from Nova Scotia northward, it is merely a passenger through these middle districts, scarcely seen after the first of May, but returning already in August or even in July. Stray birds sometimes linger so late in Massachusetts as to receive the name, Winter Yellow-legs; and I have known them to be shot on the south shore of Lake Ontario as late as November 19th, when the Old Squaw Ducks had already arrived; they are not uncommon on the sea-coast, but being rather fresh-water birds, are more abundant in the interior. When in Yarmouth, Nova Scotia, a few weeks since, I saw in the collection of Mr. Doan, a taxidermist of that place, the young of this species in the down, along with the parent, both having been shot and mounted by that gentleman. He procured them at Chebogue Point, near the city. They probably breed more or less in the marshes about Chebogue and Tusket River, in the southwest end of the Province. Strange to say, the nest of this species has recently been reported from New Jersey.

Audubon says: "When in Labrador I found these birds breeding, two or three pairs together, in the delightful quiet valleys bounded by rugged hills of considerable height, and watered by limpid brooks. These valleys exhibit, in June and July, the richest verdure; luxuriant grasses of various species growing here and there in separate beds, many yards in extent, while the intervening spaces, which are comparatively bare, are of that boggy nature so congenial to the habits of these species. In one of these pleasing retreats my son found a pair of *Telltales* in the month of June, both of which were procured. The female was found to contain a full-formed egg, and some more of the size of peas. The eggs are four, pyriform, 2.25 long and 1.60 in their greatest breadth, pale greenish-yellow, marked with blotches of umber and pale purplish-gray."

The Large Yellowshanks are said to breed very commonly on Anticosti.

About 14 inches long and 25 in extent of wings, bill 2.25 and of dark horn-color; color above, ashy-brown or dusky, each feather being edged with white and sub-margined with waves or spots of black; secondaries and tertiaries edged with alternate spots of white and black; head and neck streaked with dusky and white; spot in front of the eye, throat and under parts, white; upper and lower tail-coverts white, crossed with wavy lines of dusky; the bright yellow legs and feet, together with its size, well characterizing the species.

THE SMALL YELLOWSHANKS.

Scarcely more than a miniature of the above is the Small Yellow-shanks (*Totanus flavipes*). Being less than 11 inches long and about 20 in extent, it is very perceptibly smaller; but, except that it is a little darker, it is about the same in form, color and marking, so that the description of the former species answers sufficiently for this, and it has about the same diet, habitat, and habits in general. Audubon reported it as breeding commonly about Pictou, Nova Scotia; his friend, Professor MacCulloch, describes the nest "as placed among the grass on the edges of the rivers and large ponds of the interior." According to Dr. Coues, "the eggs are deposited on the ground, in a little depression, lined with a few dried leaves or grasses. They are three or four in number, narrowly and pointedly pyriform, measuring from 1.58×1.18 — 1.78×1.15 . * * *

The ground is a clear clay-color, sometimes tending more to buffy or creamy, sometimes rather to light brown. The marking is bold and heavy, but presents the customary great diversity, some eggs being very heavily splashed with

blotches, confluent about the larger end, while others have smaller clean-edged spots all over the surface. The markings are rich umber-brown, often tending to chocolate, sometimes almost blackish. The paler shell-markings are usually numerous and noticeable."

On the following morning, I saw a flock of these Lesser Yellowshanks scouring the same flooded fields above referred to. After describing several of their elegant circles, each keeping his place in the finely-ordered ranks, they lighted in the shallow water near a thicket. I crept around into the thicket, and crawling almost on hands and knees behind a brush-fence, when I supposed myself near enough for a good shot, and was peering cautiously around in order to take aim from behind my screen, before I could get my eye on one of the number I heard the ominous whistle—the signal of danger—and away the little creatures were careering beyond shot-range. I rose and watched the flock till they were out of sight, studying that whistle which had been given by the sentinel so well on the alert, and which they all seemed so to comprehend in an instant. To this moment I can feel in my eye-balls the quick and simultaneous beat of their wings.

Once, at Barnegat Inlet (N. J.), late in August, as I stood on the piazza of the club-house with some half-dozen others, a flock of these birds appeared. Some one whistled in imitation of their note, and at once they turned and flew directly towards us. By the time they came within shot-range, some one had brought out a gun, and giving them two charges, dropped quite a number of them. They are gentle, winsome little creatures, and well deserve to be held in favor by all lovers of nature. They are not so common here as the larger species.

THE RUSTY GRAKLE.

On the first day of May, 1880, as I stood on an iron bridge crossing a sluggish stream of Tonawanda Swamp, I saw the Rusty Grakles (*Scolecophagus ferrugineus*) constantly trooping by in immense numbers. They were moving in a very leisurely manner, immense detachments constantly alighting. The large tract of low land, covered with the alder, the willow and the osier, seemed alive with them. The sombre wave, thus constantly rolling on, must have carried hundreds of thousands over this highway in a day. Occasionally they would alight to feed in the low, wet fields in the vicinity, making the earth black with their numbers. Their notes, or what might be called their songs, were almost deafening—resembling, indeed, the vocal performances of the Red-wings, but far less musical, being more of a sharp, metallic clatter, interspersed with loud, squealing, and almost destitute of the liquid, warbling notes so peculiar to that species. On being alarmed, either in the fields or in the bushes, these Grakles would rise in a dense, black cloud, and with a rumbling sound like that of distant thunder. Their flight, which ordinarily is not very high, is straightforward, with a steady beat of the wings, after the manner of our Blackbirds in general. To one who has merely met these birds in their rusty coats, as they visit the fields in moderate flocks on their way south in October or perhaps as early as the last of September, or as late as the first of November, they would scarcely be recognizable on these gala-days of their northward migration, so almost completely have they doffed the rust-color; the male being of an elegant glossy black, with the merest touch here and there of the rusty fringe; and even the female being of a fine brown or slaty-black, and having but a moderate garniture of this distinguishable edging on her nuptial plumage. The

Rusty Grakle generally goes northward through this region early in April, or even in March. Perhaps these have been detained, or have loitered by the way, and are now advancing with a somewhat forced march along their swampy thoroughfare.

Spending the winter in the Southern and even in the Middle States—in a few cases as far north as the lower Connecticut Valley—the Rusty Grakle breeds from northern New England, northward through Labrador, westward to Alaska, and even as far north as 69°; Kansas, Nebraska and Dakota being its western limit. Like the Red-wing, it is an inhabitant of the swamp, and of low, wet regions, its food being insects, berries and small mollusks. The nests, which are very common in Nova Scotia, where this bird is called the Black Robin, are generally found in spruce bushes or larch groves, about wild meadows or in wet places; so that the memory of my childhood days associates the vigorous *chuck* and the metallic vibrations of the song of this species with these elegant *Conifera*. Mr. E. A. Samuels found the nests “on the Magalloway River, in Maine,” placed in “the low alders overhanging the water.” Audubon sometimes found them “among the tall reeds of the Cat-tails, or *Typha*, to which they were attached by interweaving the leaves of the plant with the grasses and strips of bark of which they were externally composed.”

The nest is bulky, firm and deep, composed outwardly of small sticks, mosses and dried grasses, strongly cemented together with mud, and well lined with fine, dried grasses. The eggs, deposited early in May, in Nova Scotia, where I used to regard five as the usual number, though four are occasionally found, are about $1.03 \times .77$, of a pale, grayish-green, somewhat heavily marked with several shades of brown and a dull lilac, and scratched with black. As in the

case of the Red-wings, the marking varies very considerably in different sets. I have seen the young abroad in Nova Scotia by the 7th of June.

The Rusty Grackle is a little more than 9.00 long, and some 14.50 in extent. Male, in spring, glossy black, some of the feathers, especially underneath, edged with a rusty-brown; female, slaty or rusty-brown above, rusty and grayish mixed below, with a pale stripe above the eye.

The young birds are quite brown in their first dress, and in all stages the species is characterized by the milk-white iris, noticeable at quite a distance. In the Rocky Mountain and California regions this species is replaced by Brewer's Blackbird, or the Blue-headed Grackle (*Scolecophagus cyanocephalus*), a bird of very similar habits. The two species generally mingle in their southern migration along the interior.

THE YELLOW WARBLER.

In the last week of April or the first week of May, as the warm currents of a spring atmosphere are wooing into activity every germ of field and forest, the Yellow Warbler (*Dendroica aestiva*) reaches us in immense numbers. You may find it in the forest, in thickets and slashings, quite as numerous in the orchard, and in the shrubbery about the garden and the front-yard, but most especially does it love the willows by the brook, with the yellow spray of which its golden tints are particularly in harmony.

In dress and in song it is equally conspicuous. About the size of the Chipping Sparrow, some 5 inches long, greenish-yellow above, and golden-yellow streaked with red beneath, it is unmistakable to the eye as it moves among the opening leaves and blossoms. In this locality, we have no other really yellow bird except the male Goldfinch, and he is readily distinguished by his black crown,

wings and tail, and by his unique voice and manners in general. The song of the Yellow, Blue-eyed Yellow, Golden, or Summer Warbler—for it is known by all these common names—may be represented by the syllables, *wèè-chee-wèè-chee-wèè-chee*; or, *sweet, sweet, sweet, sweetie*, uttered in sprightly, whistling tones.

It is awakening and cheerful, and therefore in delightful harmony with its time. No mere promise of spring, like the Phœbe, the Robin, or the Bluebird, the appearance of the Golden Warbler is synchronous with spring itself, and inseparably associated with the most genial sunshine and the fragrance of flowers. The very thought of his melody brings back the fruit blossoms and the merry play of garden-making. Unlike all the rest of the Warblers, that seem to go and come wholly at the bidding of the sylvan deities, this Blue-eyed Beauty seeks the society of man as well, and may confide his nest to the shrubbery about the walls of human dwellings; aye, he will even be pleased to accept the help of human hands in building that nest—constructing it with the materials placed on the clothes-line or on the grass for him. A nest before me, the building of which was thus aided by young friends, is wholly of batting, except a little lining of vegetable down, dried grass and horse-hair, and so looks like a snow-ball or a bunch of wool. This Warbler's nest may be found in the woods, the swamp, the orchard, the garden or the front-yard, and is generally placed in the upright fork of a bush, often stuck into the spray anywhere, rarely on a horizontal limb. Firmly built of various gray fibrous and downy materials, it is interlaced and bound together with dried grasses or fine rootlets, sometimes ornamented like bead-work with the fallen catkins of the butternut or black walnut, and is lined with the down of the thistle, the willow, or the reddish wool-like covering of the unrolling fronds of

various ferns. Thus the nest is grayish outside and silken-white, or delicate reddish, inside. The walls are thick and firm, and the lining is as soft and delicate a couch as any birdling ever pillowed its head upon. The eggs, some four in number, about $.67 \times .50$, are generally grayish or greenish-white, pretty heavily spotted, sometimes blotched with brown and lilac, and are very variable. Though the nest is generally built by the last of May, there is but one brood raised in this locality, and the birds leave us for the south in September.

As an exception to the whole genus, *D. astiva* has no white markings in the tail, except that the quills of the outer tail-feathers are white. The young being for some time without the red markings beneath, Audubon at first made them a separate species, which he called "the Children's Warbler."

This bird shows special ingenuity in building out the Cow-bird's egg, sometimes making even a three-story nest for that purpose; although it is not, as was supposed by the earlier ornithologists, the only bird resorting to this expedient, the Redstart, Phœbe, etc., discovering the same contrivance. Covering all North America to the arctics, and even reaching South America in winter, this abundant species is especially characteristic of our continent.

THE CATBIRD.

On the last day of April, as I paddle my canoe along the still waters of Tonawanda, I spy a Catbird (*Mimus carolinensis*) in the bushes near the stream. Only 9 inches long, of a plain dark drab or ash, excepting the black crown and the bright chestnut of the under tail-coverts, and keeping low among the thick shrubbery, this bird is now by no means conspicuous.* As it approaches nidification, about the last of May,

* I once saw in the possession of Professor W. E. D. Scott, of Princeton, a Catbird which was as white as a white rabbit.

however, it becomes very sprightly and noisy. With tail well spread and crown-feathers erect, it hops and flits about the thickets, the edges of the woods, the swamps and the thick shrubbery of the garden, the most wide-awake bird in all these haunts. Upon the slightest alarm, it will *mew* like a scared kitten, imitating this feline mammal so perfectly that no one would attribute the sound to the throat of a bird. Again, it startles one with its song, which is very spirited indeed, and in the sweetest tones, but so hurriedly uttered that it would seem impossible to catch its full meaning. Unquestionably this song may contain pretty distinct imitations of the voices of other birds, but I fail to detect that general and well-pronounced capacity of a Mockingbird so often attributed to it. Why need he repeat the melodies of his neighbors, his own song, like that of the Brown Thrush, which it greatly resembles, is sweet enough of itself. It differs most materially, however, from the song of the Thrushes proper—birds to which our singer, the Brown Thrush, and the distinguished Mockingbird, are so closely related as to be regarded by ornithologists as a branch of the same family. When the Wood Thrush sings he seems to breathe out his very soul in a thoughtful melody. There is a musical idea in every note. He is the Mozart or Beethoven of his class. He sings because he cannot help it. He sings to the forest, to the stream, and to the evening star. The Catbird sings on purpose. There is no sentiment whatever in his performance. It is wholly a play upon tones, a trick of the vocal organs; and, as has been justly said, always implies a listener, always betrays self-consciousness. The notes of the Wood Thrush inspires solemnity, and may bring one into a mood for religious devotion; those of the Catbird awaken risibility, and put the spirit of fun and mischief into one.

"Some persons do not admire the Catbird on account of his sombre plumage," says Susan Fenimore Cooper, in her delicious "Rural Hours," "but the rich shaded grays of his coat strike us as particularly pleasing, and his form is elegant. His cry, to be sure, is odd enough for a bird; and sometimes when he repeats it twenty times in succession in the course of half an hour, one feels inclined to box his ears. It is the more provoking in him to insult us in this way, because some of his notes, when he chooses, are very musical—soft and liquid—as different as possible from his harsh, grating cry. Like his cousin, the Mockingbird, he often deserves a good shaking for his caprices, both belonging to the naughty class of 'birds who can sing, and won't sing,' except when it suits their fancy."

The nest, placed in a bush or brush-pile, is constructed of coarse shreds of bark, stalks of weeds, and dried leaves, occasionally ornamented with one or two rags or feathers, and lined with rootlets, giving the inside a uniform dark color, which is quite characteristic. The eggs, commonly 4, some .95 X .70, are of a fine, dark bluish-green. A second brood is sometimes raised.

How bravely the Catbird will attack the black snake, that arch-enemy of birds' nests on and near the ground, wriggling about vines and bushes after the manner of a more ancient individual of his kind, almost as much at home in a tree as on the ground—how our bird will attack him with bill and claw, and not infrequently compel him to retreat, has been noted by almost every ornithologist.

In spring and early summer the food of the Catbird is insectivorous. Larvæ in general, and cutworms, as well as winged insects, constitute the bulk of its fare. Later in the season it is partial to small fruits, feeding mostly on wild berries of swamps and thickets. It is therefore the friend

and ally of the husbandman, and should never be the subject of persecution; and especially because of the partiality it shows for the vicinage of man, being almost entirely confined to the improved and cultivated regions of the country, and more or less common about our dwellings.

The Middle States are the favorite breeding region of this bird. Reported as rare in Northern New England, it breeds commonly in Nova Scotia and on the Red River of the north, on the Saskatchewan, in the cultivated parts of the Central Plains, and on the Columbia River. It is resident in the Southern States, but many pass the winter far beyond. It leaves the Middle States for the south in September or October.

THE WATER THRUSH.

On this last day of April, I every now and then hear the spirited notes of the Water Thrush (*Sciurus noveboracensis*). I sometimes hear them even a week earlier. I hardly know whether to call these notes a song or not. They are not at all like those sylvan melodies, which seem the overflow of quiet joy from happy natures; but are rather a strong utterance of surprise, as if the bird had made some exciting discovery—perhaps your own unwelcome presence—and wished to express some feeling of alarm or disapproval. *Chee-chee-chee-chee-choo-choo-choo-choo-choo-choo*, beginning with a somewhat high and loud note, and gradually dropping down softer and lower, the whole with an increasing rapidity, might represent this vocal performance. As Wilson and Audubon evidently gave us only the history of that delightful songster, the Louisiana, or Large-billed Water Thrush, and subsequent writers have been more or less confused as to the voices of this and our more northern or common Water Thrush, ornithological readings do not pre-

pare us for this so-called song, as above described; and yet I fail to detect in it any other melody, or any other note, except that sharp *chip, chip*, common to its genus.

Having the dress of a Thrush, and the dainty, dove-like gait as well as the jerking of the tail, so characteristic of the Titlarks, while the structure is more allied to that of the Warblers, this species and its congeners—the Louisiana Water Thrush, and the Golden-crowned Thrush—have greatly puzzled our ornithologists. After calling them Thrushes for some time, and then Titlarks or Wagtails, the greater importance of structural affinity over and above mere appearance or analogy has finally placed them among the Warblers—“Terrestrial Warblers,” Coues calls them.

The Water Thrush is commonly quite shy, and manages to keep well out of sight while one is moving around; but if you will sit down and remain quiet, it will perambulate about quite freely, and allow you a good view of its trim form, some 5.50–6.00 inches long, and of a rich olivaceous-brown coat and cap, and yellowish-white eye-brows and under parts, the latter thickly spotted in streaks with brown.

Being almost constantly on or near the ground, this so-called Thrush is a ground-builder; and, true to its name, keeps in the immediate vicinity of water, generally in the partially submerged shrubbery of a swamp. Here the nest may be found at the root of a tree or stump, or stuck into the side of a partially decayed and moss-covered log. It is composed of sticks, dried grasses, moss and fine fibrous material; and contains four eggs, about $.85 \times .67$, delicate white, specked with light-red. It may be found in this locality late in May or early in June. I have found the young out of the nest by the 19th of June. Habitat, Eastern North America, up to high latitudes. I found it breeding in Nova Scotia. Its northwestward trend is to Montana,

and even to Alaska; south in winter, into the West Indies, Central America, and even South America.

The Large-billed Water Thrush (*Sciurus ludovicianus*), though very similar to the above, both in appearance and in habit, is nevertheless clearly differentiated by its greater size, larger bill, buffy-white under parts, instead of yellowish-white, its more southern habitat, and its marvelous powers of song.

CHAPTER XII.

THE THIRD OF MAY.

IT is the 3d of May and we are just in the thickest of the spring migration of our birds. Considered in all its relations, this regular movement of the birds is one of the most wonderful facts in nature. Coming such an immense distance, many of them from the tropics to the far north, often one or two thousand miles, how can they time themselves so well? No matter what the weather is, or the character of the season, I know within a few days at most, in many cases almost within a few hours, when to expect each species.* Not many hours from the morning of the 7th of April I may be sure of the pleasing melody of the Bay-winged Bunting, or Grass Finch; and as soon as one appears, they become almost numberless. About the 1st of May I may expect the Catbird, the Indigo-bird, the Redstart, the Black-throated Blue Warbler, and the Yellow Warbler; and about a week later arrive the Golden-crowned Warbler, the Rose-breasted Grosbeak, and the Wood Thrush.

This exact time of arrival adds a delightful interest to the study of ornithology. I wait for the coming of the birds, especially for my favorite ones, as for the coming of my friends. As our rugged winter wears away, I count the weeks and the days.

* This is particularly true of the land-birds. Many of the water-birds (but by no means all of them), especially such as migrate along the water-courses of the interior, may be governed considerably by the nature of the season.

The time of arrival, as also of departure, though so exact in each case, varies greatly with different species. The Robin, the Bluebird, the various Blackbirds, the Phœbe, the Killdeer, the Meadow Lark and the Song Sparrow arrive before winter is over, and are thus the harbingers of spring; but Thrushes, Warblers, Cuckoos, and the Flycatchers generally, come with the spring flowers and the tender foliage. "The Indian of the fur countries, in forming his rude calendar, names the recurring moons after the Birds-of-passage, whose arrival is coincident with their changes."

Those birds which arrive first stay latest, and the latest visitants are the first to depart. For the most part, the males are the first on the ground in the spring, while the females or the young lead the van in the fall; and it is pretty certain that those individuals spending the summer farthest north also winter farther north than those of the same species which do not reach such high latitudes. It may also be set down as a general law that those species which spend the summer farthest north also winter farthest south.

Many kinds of birds, especially such as fly high and encounter but slight danger, perform their passage in part or wholly by day; but those passing near the ground, or experiencing special dangers by the way, almost invariably move under cover of the night. It is probable that the divers—such as Loons and Grebes—make their passages mostly in the water, following the great water-courses; while certain running birds, as the Rails, achieve a great part of their journey a-foot.

Our North American birds seem to migrate year after year in certain lines, toward the north in the spring, and again toward the south in autumn. For instance, of the

immense number of birds wintering in Florida, some regularly follow the more easterly parts, while others, pursuing a more interior route, trend away to the northwest; so that a number of observers, forming a line from east to west across these lines of migration, would each find, year after year, certain passengers peculiar to his station. The Atlantic Coast and the Mississippi—Father of Waters—would seem to be the main thoroughfares.* Again, the regular route in the autumn for some species is not the same as that of the spring. Some species, and perhaps it may be said the birds in general, return to the same spot for nidification from year to year. The Barn Swallows return to the old home on the rafter with great demonstrations of joy at each arrival; the Bluebird and the Martin return regularly to their tenement; the Bird of Prey seeks out its old eyrie, and even the song-bird of the forest, which achieves the longest migration, is known to rebuild near its former site. It is said that from year to year “the immortal Naumann knew all his little feathered friends, near his house, by their songs.”

How does each species, or individual, trace its pathway with such marked regularity and certainty? Whoever would account for this, by the bird's-eye view of the main points of landscape which the migrant is supposed to command from its lofty aerial pathway, must attribute to the bird a higher reasoning faculty in combining the general effect of the extended scenery through which it passes than it could seem to possess; and at the same time fails to find the route for the vast numbers moving low, or under cover of the night. Nor do the young always avail themselves of the more experienced; and unless the bird be endowed with an intelligence immeasurably above that of man, would it

* A careful study of the facts in the Old World has rendered it certain that great water-courses, and their adjoining valleys, are the main thoroughfares of migration.

not require a great deal of experience to secure so wonderful a result with so much certainty? Here is a mystery which the most careful study can only enhance. In that mystery who does not exclaim:

There is a power whose care
Teaches thy way along that pathless coast,
The desert and the illimitable air."

The manner of the birds in their passage is in every way interesting. There is often much ceremony by way of preparation for the journey. Some go singly or in pairs, others in families or flocks, these moving communities sometimes being enormous. The Swallows will gather in immense flocks, perching in dense lines on the ridge of the old barn or along the telegraph wires, and laugh and chatter as if their formidable journey were to be the merriest thing possible; the vast assemblages of the several kinds of Black-birds, generally each kind by itself, will fairly darken the corn-fields and the meadows; and the Robins will assemble with a subdued but peculiar hilarity. Generally there is the greatest possible difference between the spring and the fall migrations, the former being hurried, jubilant, and full of song; the latter leisurely, quiet, and comparatively voiceless.

It is the opinion of some of the best European observers that the more hurried and joyous the vernal migration, the earlier and more genial will be the spring, and that loitering or hesitation betokens the opposite; while the more leisurely the southward movement, the greater the probability of an easy winter, and *vice versa*.

Gregarious species, especially the water-fowl, often move in the most exact and beautiful order. Who has not noticed the flight of Wild Geese, Ducks and Plover, in the form of a V, a straight line, or a graceful curve? As

the leader cleaves the air with a special outlay of strength, he every now and then drops into the rear in the easier line of the wake, some other one taking up the task in front. The European Storks are said to perform, every now and then, the most beautiful evolutions on their way, after which they move straight forward as usual. In heavy fogs or dark nights birds fly low, and that often at their peril. Not infrequently they lie over during weather especially unfavorable. All such as take long and high flights prefer the moonlight and the wind ahead. Wind in the rear is very unfavorable. Not infrequently birds prefer to travel under the leadership of the more experienced of their class.

Very noticeable, indeed, is the effect of this regular migration in any locality. Compute the probable number of any one species, as the Bay-winged Sparrow or the Baltimore Oriole, for instance, contained in every square mile of their summer habitat, and imagine the immense tidal wave which, at the exact time for each species, moves along the entire breadth of the line of march. The more brilliant varieties everywhere appeal to the eye; and, as they reach their summer residence, each kind of the birds of song makes the air more resonant with its peculiar melody. How the arrival of any numerous species modifies the entire phase of a rural district! The field and orchard teem with a new and happy life, and from the forest comes the finest of nature's melodies.

In Eastern North America, the birds migrate in greater numbers and over a greater reach of country than in any other part of the world; therefore, I am especially led to inquire how this wonderful thing is accomplished. What strange and mighty impulse is this which, inspiring the breasts of such countless multitudes at the same moment, carries them on through bitter storms and numberless perils

to such immense distances? Even those species of migratory birds which have been confined for many months, and seem perfectly tame, dash violently against the sides of their cage, and the tamed Canada Goose becomes wild again at the call of his species in their northward flight, and abandoning all his new relationships, rises to join them.

Mr. A. R. Wallace, in his great work on the Geographical Distribution of Animals, states what he conceives to be the natural causes for this wonderful phenomenon.

He suggests "that the instinct of migration has arisen from the habit of wandering in search of food common to all animals, but is greatly exaggerated in the case of birds by their power of flight and by the necessity for procuring a large amount of soft insect-food for their unfledged young." This might explain certain more or less irregular movements of birds, which are termed *partial* migrations, but is by no means sufficient to account for all the wonderful facts of *regular* migration. As a matter of fact, insect-life becomes much more abundant as we approach the warmer regions of the globe, the larvæ of most kinds of insects appearing at different times throughout the season; hence we are not surprised to find large numbers of birds, of about every order, breeding and residing permanently in the more southern parts of our continent. Moreover, not a few species breed almost indifferently in any part of Eastern North America, to quite high latitudes, nesting at an earlier or later period of the entire breeding season, in accordance with their more northern or more southern location. Since nature yields so readily to ordinary causes, might not the birds generally find it more convenient to adjust the time of their nidification to that period of the year when insect larvæ abound in the more southern latitudes, than to travel such immense distances, encountering

wind and storm, and perils innumerable? The perils which birds encounter in their migrations are inconceivable to those unacquainted with the facts. Overcome by adverse winds and storms of great severity, immense numbers become exhausted and perish, as is shown by the numbers of the small land-birds drifting on to the shores of the Great Lakes after very severe storms. Attracted and dazed by the light-houses stationed here and there, so many dash their lives out against them as to render these points of incalculable interest to the observer. The continuous network of telegraph wires spread over the country maims and destroys countless numbers. After heavy storms, during their migrations, hundreds of Ducks have been picked up dead on a single morning on Niagara River, below the Falls, they having flown into the great cataract and perished.

Again, the same author says: "If we go back only as far as the height of the glacial epoch, there is reason to believe that all North America, as far south as about 40° north latitude, was covered with an almost continuous and perennial ice-sheet. At this time the migratory birds would extend up to this barrier (which would probably terminate in the midst of luxuriant vegetation, just as the glaciers of Switzerland now often terminate amid forests and corn-fields), and as the cold decreased and the ice retired almost imperceptibly year by year, would follow it up farther and farther, according as the peculiarities of vegetation and insect-food were more or less suited to their several constitutions." The only possible interpretation of this passage would seem to be that the birds, being held in the south by the glacial epoch, followed up the recession of the cold at the closing of that period, and ever since have kept up the same movement in annual accommodation to cold and ice,

simply to find suitable food. The question naturally arises, since all varieties of bird-food abound in the south, why should a berry, a grain, a seed, or a caterpillar, be so much more palatable in the north? Nor are our regular migrants generally driven back from the north by hunger and cold. Nearly all our migratory birds leave for the south either during the fine and fruitful days of late summer, or in the most brilliant and balmy days of autumn, when they are well covered with an extra coat of fat, and give forth a pleasing repetition of the gladsome lays of spring; and in most cases they evidently go much further than is necessary to find food and mild weather. In the gala-days of spring when most birds make their passage, the weather and resources of food are such that the whole journey is one continuous festivity.

Mr. Wallace admits that "the most striking fact in favor of the 'instinct' of migration is the 'agitation,' or excitement, of confined birds at the time when their wild companions are migrating," but thinks this "a social excitement due to the anxious cries of the migrating birds." No doubt the tame bird may be affected by the cry of its fellow, but those not within the reach of such cry, nor even within sight of their passing relatives, seem equally excited in the time of regular migration, spending the whole night in useless efforts to free themselves. Moreover, how came these birds in confinement, these life-long prisoners shut out from the society of their kind, to recognize each the call of its fellows, and to comprehend its meaning? Again, the same writer says: "We must remember, too, that migration, at the proper time, is in many cases absolutely essential to the existence of the species; and it is therefore not improbable that some strong, social emotion should have been gradually developed in the race, by the circumstance that all

who for want of such emotion did not join their fellows inevitably perished." As to the first clause of this statement, we know that birds occasionally nest very far from their ordinary breeding habitat, and for aught we can see they might always do so; and as to the second clause, the query naturally arises, how came the sad fate of the few delinquents that "inevitably perished" on failing to migrate to become so generally known and so deeply affecting? It is marvelous what an amount of loose speculation may pass for science! No; neither the wisdom of the birds, nor the force of circumstances, however stern, can account for the wonderful phenomena connected with the regular migration of birds. It would seem that this, like so many other persistent habits in animated nature, must be caused by the laws of instinct, superintended by an Infinite Intelligence. Nor should we be stumbled because we, in the close limitations of our finiteness, cannot conceive how the Infinite and Omnipresent can touch these innumerable springs of activity in animated nature. With proper evidence, there should be room for faith.

One very naturally sympathizes with Audubon in his reflections on the bleak coasts of Labrador. "That the Creator should have ordered that millions of diminutive, tender creatures should cross spaces of country, in all appearance a thousand times more congenial for all their purposes, to reach this poor, desolate and deserted land, to people it, as it were, for a time, and to cause it to be enlivened with the songs of the sweetest of the feathered musicians, for only two months, at most, and then, by the same extraordinary instinct, should cause them all to suddenly abandon the country, is as wonderful as it is beautiful and grand."

THE BALTIMORE ORIOLE.

O, these days of life and song! they are but too short and fleeting! I go into my study, in the early morning, and sit by the open window which overlooks the village



THE BALTIMORE ORIOLE.

nestling among the trees. What a delicious fragrance floats on the breeze! What can be more suggestive of Paradise than this delightful chorus of birds, and this budding and blooming of spring?

Ah! my old favorite, the Baltimore Oriole (*Icterus baltimore*), has arrived during the night. I hear his loud, sweet whistle in the large elm just across the way. Now he has passed directly before the window, and lit in full view in the orchard. He is well worthy of the epithet "Golden" in his old familiar name, Golden Robin, only he is no Robin at all; and if Lord Baltimore, for whom he is named, could have equaled his brilliancy in the colors of his coat-of-arms, he was a gay fellow to lead a persecuted people into the wilderness. Most appropriate of all, I think, is this bird's Indian name, "Fire-bird." Appearing to the best advantage as he flies from you, does not that rump of bright orange, surrounded by the jet-black of his head, shoulders, wings and tail, glow like a burning coal? And, as he spreads his tail in lighting,

are not those light-orange outer feathers of the same about to burst into a flame? The brightest orange, however, is on the breast, becoming lighter on the sides and under parts; and in the brightest specimens, even the white of the wing-coverts is tinged with the same. His female, who may arrive in a day or two, or may linger behind more than a week, has but a general resemblance, being much duller in color and marking.

Hero, hero, hero: Cheery, cheery, cheery: Cheer-up, cheer-up, cheer-up: are among his common notes, generally coming from among the swaying branches of the taller trees; but sometimes also from the bushes, and even from the fence. Occasionally, only, is he seen on the ground, and then he appears as much out of place as a gentleman in broadcloth and kid-gloves digging a ditch, or guiding a plow. On some minds the effect of the song of birds is very great. The most sprightly cheerfulness is particularly emphasized in the song of the Baltimore. How I have been cheered by it, in certain days dark with sorrow, I cannot easily forget. Hence his first note awakens a throng of tender reminiscences, and his return is always an event of the season. And yet that song has but little compass or variety. Its effect is wholly in the tones. The notes are almost monotonous, unless, indeed, he has learned to imitate the note or song of some bird by the way, one which never reaches us, and so leaves the acquired song a mystery to us; a peculiar attainment of the Baltimore, in which his voice may become quite flexible. Unquestionably he has quite a faculty for imitation. Besides his song he has a spirited twitter, or rattle, when in combat, and when winning the female. He has also a single note, corresponding to the common *chipping* of birds when alarmed about their nest or young. But all his noise will soon be over. Incubation

once begun, he is one of the quietest of birds and remains so till after the moult, during which event he is rarely to be seen; then returning to the vicinity of the late nesting place in the orchard or grove, he will be almost as gay, and sprightly, and musical, in the midst of his full-grown family, now making ready to depart for some more genial clime, as he was in the hilarious days of the nuptial season.

A very "castle in the air" is the Baltimore's pensile nest, as it sways and rocks on an elastic branch of some tree, in the front-yard, the orchard, the grove or the forest. In this locality a partiality is shown for the graceful drooping branches of the elm. Wherever placed, it seldom fails to be under a canopy of leaves. Generally in the form of a bag some six or seven inches deep, round at the bottom, and hung to slender fork-shaped limbs by the edges, the limbs thus serving to hold it open, it is the most noticeable bird's nest in field or forest. The material is almost anything in the form of long strips or threads that can be easily woven—thin, gray, vegetable fibers, yarn, twine, interlaced in every possible manner, and well sewed together with horse-hair. The walls are so thin and open as to let the air through readily. The bottom is a thick cushion of vegetable down and hair. A gentleman in Pennsylvania once hung out bright and various colored zephyrs, which the bird wove into a most brilliant and fantastic fabric. Says Wilson: "So solicitous is the Baltimore to procure proper materials for his nest that, in the season of building, the women in the country are under necessity of narrowly watching their thread that may chance to be out bleaching, and the farmer to secure his young grafts; as the Baltimore, finding the former, and the strings which tie the latter, so well adapted for his purpose, frequently carries off both; or should the one be too heavy, and the other too firmly tied, he will tug

at them a considerable time before he gives up the attempt. Skeins of silk and hanks of thread have been often found, after the leaves were fallen, hanging around the Baltimore's nest; but so woven up and entangled as to be entirely irreclaimable. Before the introduction of Europeans, no such material could have been obtained here; but, with the sagacity of a good architect, he has improved this circumstance to his advantage; and the strongest and best materials are uniformly found in those parts by which the whole is supported."

Great sagacity and skill are shown in adapting the form of the nest to circumstances. Audubon observes that the walls of the nest are thinner, or thicker, and that it is placed on the warmer, or cooler, side of the tree, according as the location is northern or southern. Two nests, lately found by Mr. Eugene Ringueberg, of Lockport, N. Y., are very suggestive as to the intelligence of the bird. One was hung on the string of a kite caught in an apple-tree. Closed at the top in the form of a cone, its opening, high on one side, was a sort of projecting porch of closely woven horse-hair, which, as the nest could turn in any direction, served as the tail of a weather-cock, and turning constantly to the leeward side, kept the entrance from the storm. The other, being built on two slender twigs, was too poorly supported for the weight of the bird. In this emergency, a strong piece of twine was woven into one side, carried up over two firm branches, and well fastened into the other side, thus making the nest fully secure. Here was no mean exercise of the reasoning faculty. Those who study the animal kingdom most will have the highest opinion of its intelligence.

The eggs, generally four or five in a set, some ".90 × .60" of an inch, are white, slightly tinged with brown, and

sparsely but irregularly scratched in every direction, as if with a pen, in both light and heavy strokes with black or dark brown; some of these marks being obscure, as if partially washed off. As generally with birds of its size, incubation occupies some two weeks. The young resemble the female, but Audubon thinks that the young males acquire their bright colors the first year.

The Baltimore Oriole is a great devourer of insects; but like other birds of that kind of diet, he will occasionally affect a change. Once, after a spring shower, when the peach-trees were in bloom, a beautiful male lit in one just against a window. All unconscious of my presence, though I was scarcely more than two feet from him, he began moving up and down the limbs in that gliding, athletic manner peculiar to himself, ever and anon inserting his bill into the cup-like calyx of the blossoms. Could he be drinking the new-fallen rain-drops? Scarcely; for he did not raise his head to swallow. Looking a little more closely, I saw that he was eating the stamens. Let not the fruit-grower be alarmed, however, for nature has provided many more blossoms than is necessary for a good crop. It may be that the Baltimore is simply thinning them to advantage.

With us, as in many other parts of our country, this is one of the most numerous and well-known of all the birds; while his brilliancy, his loud and happy notes, and his abundant appearance in shade trees, orchards, fields, forests, and even in the heart of our great cities at the same time, fully make known the morning of his arrival. Wintering in Mexico, Central America, Cuba, etc., he breeds nearly throughout the Eastern United States, and, becoming rare in Northern New England, barely extends into the British Provinces. He belongs, therefore, to the Alleghanian Fauna.

THE ORCHARD ORIOLE.

Very similar in form and marking, but of a different color and smaller, is the Orchard Oriole (*Icterus spurius*). Some seven inches long, and having nearly the same parts black as the Baltimore, except that the tail is entirely black, the male has those parts corresponding to the orange in the latter—chestnut, or chestnut-red. The female is olivaceous above, with dusky wings, and greenish-yellow beneath. The young male is like her the first year, the second year he acquires a black throat, the third year is variously spotted, and afterwards acquires the dark colors of maturity. Residing in Orleans County, N. Y., I am a little too far north for this bird, but in Northern Ohio, where I formerly studied him, he is very common, being found in every orchard. Arriving there about the middle of May, his song is a loud and delightful warble, bearing a striking resemblance to that of the Robin or Rose-breasted Grosbeak. The female is so shy as seldom to be seen. The nest, hung by the upper edge to a limb in the orchard, is nearly hemispherical, built of tough grasses thoroughly interwoven. Wilson says: "I had the curiosity to detach one of the fibers, or stalks of dried grass, from the nest, and found it to measure thirteen inches in length, and in that distance was thirty-four times hooked through and returned, winding round and round the nest." He says, also: "An old lady of my acquaintance, to whom I was one day showing this curious fabrication, after admiring its texture for some time asked me, in a tone between joke and earnest, whether I did not think it possible to teach these birds to darn stockings." This nest, being built of grasses so recently dried as still to retain their green color, about like that of new-mown hay, has a peculiarly fresh and clean appearance.

The Orioles proper are altogether birds of the Old

World, and are allied to the Thrushes. "More than twenty species are described in Africa, Asia, and the Indian archipelago." One species, the Golden Oriole, migrates into Southern Europe, and occasionally reaches Great Britain and Sweden. They all build very ingenious nests. Our Orioles, of a wholly different type, and peculiar to the New World, especially to Central and South America, are closely related to the numerous Blackbirds of our country, all of which are ranked among the Starlings.

THE WARBLING VIREO.

From a group of tall maples in a neighboring yard, there comes one of the most delightful warbles ever heard in this locality—that of the Warbling Vireo (*Vireo gilvus*). In a series of liquid notes, very fluent and greatly prolonged for the size of the bird, in a smoothly undulating melody, delivered while the bird flits and gleams among the foliage, and in tones so sweet that it would seem as if the air melted in them, the very soul of tenderness and affection is breathed out upon the ear. In one of our rural burying-grounds, not long since, while a casket with the remains of a little child was being lowered into the grave, there mingled with the sobs of heart-broken mourners the inimitably tender warble of this bird from a tree-top just above. Never did the melody of bird or man seem more appropriate. It was at once the voice of sympathy and hope in the very presence of death.

This inimitable melody, like that of some celestial flute or flageolet, never out of time, and never failing to charm, may be heard in our middle districts from the first days of May till the last of September.

Though common to orchards and shaded front-yards, even in villages and cities, the Warbling Vireo is much

oftener heard than seen. Nearly the size of a canary, 5.50 long and 9.00 in extent, olivaceous-green above and yellowish-white beneath, it so nearly resembles the leaves as it glides softly and gracefully through the tree-tops that one must look sharply to detect it. But it is so utterly absent-minded as it flits and peers among the branches, meanwhile abandoning itself to its song, that one may come almost as near to it as one pleases. Though, like the rest of the Vireos, it takes its food and moves about like a Warbler, the bill, hooked and notched, broad at base and well bristled, reminded the older ornithologists of the Flycatchers, while its general structure now brings this family near the Shrikes—a group of birds of altogether different habits of voice, food and nidification. The family *Vireonidae* is entirely of the New World, and the genus *Vireo*, to which this warbling species belongs, is almost exclusively of North America, while the species itself pertains to the eastern parts. As in the case of the Vireos in general, male and female are alike. Like all the rest of its genus, it hangs by its edge a delicate pensile nest on the elastic twigs of some bush or tree; in the case of *gilvus*, almost always high up in the tree; the eggs, some $.80 \times .55$, being of a most delicate or flesh-tinted white, barely specked with dark-brown or black, are among the most beautiful of birds' eggs.

The nests and eggs of the Vireos can never be mistaken, so wholly different are they from the nests and eggs of all other birds. Never shall I forget the tender sense of the beautiful which stole over me in the days of childhood, as I first beheld a nest of this bird. A very fairy-like basket of jewels it seemed.

A warbling Vireo's nest, now before me, is hung on very small twigs at their junction with a larger upright twig, and is slightly fastened around the latter. It is woven of

woody fibers, some dried grass and shreds of bark, intermixed with bits of wasp-nest, vegetable down, and the white, fine-spun substance of certain cocoons. It is lined with fine shreds of the grape-vine. Another nest, suspended in the ordinary way, is similarly made up, but very shallow, not more than $1\frac{1}{2}$ inch in depth outside.

Though the summer habitat of *Vireo gilvus* is given as far west as the High Central Plains, I do not think it extends very far north of Lake Ontario. I did not meet with it on Georgian Bay nor in Nova Scotia. Mr. Chamberlain does not report it from New Brunswick, and Mr. Everett Smith regards it as rare in Eastern Maine. It is probably a bird of the Alleghanian Fauna.

The Brotherly-love, or Philadelphia Vireo, probably a closely-allied species to the Warbling, is also found occasionally in this locality. It is quite a little shorter than the latter, perhaps half an inch, and the colors are brighter—the olivaceous having more of green, and the white having more of yellow—the breast, for instance, being in some cases quite yellow. When first studying birds, the eye being not yet trained to the exact observance of form and color, I noticed the difference at once on procuring the Philadelphia. Like other Vireos, its nest and eggs are probably in close conformity to the general type. It is not uncommon in New England, nor in New Brunswick, while it is said to be abundant every spring, and quite common on the Red River of the north.

Mr. Wm. Brewster found this species common about Umbagog Lake in the breeding season. He says: "Contrary to what might be expected from the apparently close relationship of the two birds, the song of this species does not in the least resemble that of *Vireo gilvus*. It is, on the other hand, so nearly identical with that of *V. olivaceus* that

the most critical ear will, in many cases, find great difficulty in distinguishing between the two. The notes of *philadelphicus* are generally pitched a little higher in the scale, while many of the utterances are feebler, and the whole strain is a trifle more disconnected. But these differences are of a very subtle character, and, like most comparative ones, they are not to be depended upon unless the two species can be heard together. The Philadelphia Vireo has, however, one note which seems to be peculiarly its own, a very abrupt, double-syllabled utterance, with a rising inflection, which comes in with the general song at irregular but not infrequent intervals."

Similarity of appearance to the Vireos generally, and close resemblance in vocal habit to the Red-eyed Vireo, have no doubt caused the species under review hitherto to elude notice. Now that the points of discrimination have been so well brought out by Mr. Brewster, it may, perhaps, be found generally and commonly distributed in Eastern North America.

In the deep forests, or possibly in some thickly-shaded yard, already in the latter part of April, I may meet the Yellow-throated Vireo (*Vireo flavifrons*). Well nigh six inches long, yellowish-green above, wings and tail deep dusky, the feathers edged with white or yellowish, wing-bars white; throat, breast and eye-lids bright yellow, the remaining under parts white, it is the brightest of its genus. It keeps well up in the tops of the trees, diligently gleaning as it sings, *vireo*, *vire-ee*, *wee-ree*, etc., in tones rather shrill for a Vireo, and not nearly so finely modulated and fluent as those of its relative, the Red-eye, but greatly resembling them. Breeding "from Maryland and Virginia northward" (Coues), its nest, some 5 to 15 feet from the ground, is not uncommon in this locality.

One now before me is similar to that of the Red-eye. The walls, however, are thicker, the nest deeper, and hence more bulky; also more fully ornamented on the entire outside with a white material—capsules of spiders' nests or coverings of some kind of chrysalid—and around the bottom with bits of rotten wood, very porous and almost white, probably bass-wood; the whole having a whitish or yellowish-gray and highly artistic appearance. Another, found June 20th, is not any larger than the Red-eye's, but the outside is ornamented with skeleton leaves, fine vegetable fibers, down, capsules of spiders' nests, etc. The eggs, some .75 or $.80 \times .55$ or .60, therefore rather longish and pointed, are pure white, with a few spots or mere specks of dark brown or black on the large end.

THE RED-EYED VIREO.

Certainly in a few days I shall meet in great abundance throughout the forest the Red-eyed Vireo (*Vireo olivaceus*). Fully six inches long, it appears larger than most of its genus, and while it has the general colors of the Vireos or Greenlets, olive-green above and white or whitish beneath, its ashy crown flanked with a narrow line of black, and its white line over the eye, differentiate it alike from the Warbling and from the Philadelphia Vireo. Keeping, for the most part, in the upper regions of the thick foliage, it almost constantly enlivens the woods with its soft flowing warble; its tones, though "cheerful and happy as the merry whistle of a school-boy," being yet so much softer and sweeter than the Yellow-throats, as to be readily distinguishable. Its melody, rendered in a spontaneous, absent-minded manner, seems simply a cheerful accompaniment to business, something thrown in by the way. I know of no bird in our forest which sings so constantly

from early morning through the burning heat of noon, and on into the sombre shadows of the coming night, aye throughout the season from May to September, as this unpretending little summer resident. To quote Mr. Burroughs, "Rain or shine, before noon or after, in the deep forest or in the village grove—when it is too hot for the Thrushes or too cold and windy for the Warblers—it is never out of time or place for this little minstrel to indulge his cheerful strain." This song is in mellow, whistling tones, varied with rising and falling inflections, and may be represented by the syllables, *virio-virio-virice-viria-viree*, etc., suggesting the origin of the bird's name. Some one has made it especially articulate in the following lines:

"Pretty green worm, where are you?
 Dusky-winged moth, how fare you,
 When wind and rain are in the trees?
 Cheeryo, cheerebly, chee,
 Shadow and sunshine are one to me.

"Mosquito and gnat, beware you,
 Saucy chipmunk, how dare you
 Climb to my nest in the maple-tree?
 And dig up the corn
 At noon and at morn?
 Cheereyo, cheerebly, chee."

Its small cup-shaped, pensile nest, hung to the twigs of a bush or tree, late in May or early in June, anywhere from several to twenty feet from the ground, located in any part of the forest, but seldom elsewhere, is, perhaps, not equal as a work of art to that of some other Vireos. It is composed, outside, of shreds of thin fibrous bark, of a light color, and ornamented with vegetable down, the silk of cocoons, bits of wasps' nests, etc.; inside, of a few fine rootlets.

but mostly of something like fine shreds of bark from the wild grape-vine. The eggs, three or four, measuring some $.82 \times .62$, of a pure glossy-white, are generally barely specked on the larger end with dark brown, sometimes also sparingly blotched with dull red. All the Vireo's eggs are more or less pointed.

Never shall I forget a beautiful evening on the 18th of May, when I was most highly entertained by a female Red-eye building her nest. It was after one of those genial spring days, when all the latent forces of nature are wooed into activity. Strolling through the woods near sunset, I sat upon a large stump, where a lately fallen tree had left quite an opening, letting in the sunlight with a most grateful effect. Here I listened to a host of birds all around me. About fifteen feet up in a smallish beech, I noticed a silent Red-eye, looking very anxious and busy. Presently I saw a few feet from her the merest outline of a nest—a little gossamer bag hung to the twigs. In a moment she lit upon it and began to work. I could see the motion of the weaver, but not a thread of the material, it was so very fine. Reaching around the fabric, even underneath it, she would seem to catch some loose thread, and drawing it over the side and edge, fasten it inside. Working thus a few moments, all around inside and outside of the nest, she would fly away, soon returning to repeat the same operation. Though so near, I could scarcely discern a particle of the material she brought, and yet the nest grew rapidly. Wonderful little workman! Where did she learn her art?

Wintering partly in Florida, but mostly in tropical America, and extending their summer range throughout the Eastern United States, the British Provinces, and the Northwest, the Red-eyed Vireos are among the most abundant and characteristic birds of Eastern North America.

THE SOLITARY VIREO.

I also find the Solitary Vireo (*Vireo solitarius*) here as a rare migrant in May. Some 5.00 inches long; head ashy; back, greenish-olive; ring around the eye, stripe thence to the nostrils; wing-bars, outer edges of the dusky wing and tail-feathers and under parts, white; sides tinged with yellow—this Vireo is readily distinguished from the rest, especially by its larger head of plumbeous-blue and the white markings about the eye. As this bird has been found breeding near Boston, it would seem that it might breed here; but I know of no one who has found its nest. Its nidification seems to be principally in Northern New England and northward. Nuttall, that masterly interpreter of bird-music, says: "Its song seems to be intermediate between that of the Red-eyed and the Yellow-breasted species, having the *preai, preai*, etc., of the latter, and the fine variety of the former in its tones." Minot says "the music of the Solitary Vireo is delicious." Burroughs speaks of a note of the female as suggesting "the bleating of a tiny lambkin." Mr. J. E. Wagner, an amateur ornithologist of good abilities for observation, in Nova Scotia, says that the song of the male is sometimes very much like certain of the finer strains of the Catbird, and that he is a most constant and spirited singer.

The nest, in material, structure and position, is very similar to that of other Vireos. The eggs average ".77 X .58" of an inch, and are pure white, with a very few minute and generally reddish-brown spots, principally at the larger end." A most elegant nest, just sent me by Mr. Wagner from Nova Scotia, the head and wing of the female accompanying it, is very similar to that of the Red-eye. It was hung about eight feet from the ground, in the forked limb of a fir bush, is made of *usnea*, and fine shreds of the thinnest

bark of the white birch, being lined with fine dried grasses. The four eggs, fresh the 7th of June, about $.78 \times .56$ —as long and pointed as any Vireo's egg—are pure white, sparsely specked with reddish-brown, mostly at the large end—the specks looking as if they had been put on when the shell was soft, and so had run a little.

Keeping to the forest, and exceedingly solitary and retiring in its habits, this bird ranges nearly throughout North America, and winters in the more tropical regions. Mr. Wagner reports the species as breeding very common in New Canada, Lunenburg County, Nova Scotia, the female adhering most persistently to her nest, and defending it very bravely on leaving it.

THE WHITE-EYED VIREO.

The White-eyed Vireo (*Vireo noveboracensis*), "noted for its sprightly manners and emphatic voice," is but seldom found here. Mr. Ringueberg, of Lockport, has found it breeding near that city. The nest, now before me, is almost precisely like that of the Red-eye; built externally with fibers of bark, interlaced with webby material, lined with something brown, which appears to me to be the finest shreds of the bark of the wild grape-vine. The nest has one peculiar mark, however. It is well ornamented with bits of newspaper, in addition to the dried leaves, bits of wasps' nests, and "paper-like capsules of the spiders' nests," so common to the nests of the Vireo; and thus the bird maintains its right to the name of *Politician*, given it by Wilson. This nest was in a bush in a small thicket. The single egg it contained was very similar to the egg of the Red-eye, but smaller, and the fine specks on the pure white ground, black or nearly so.

The bird is 5 inches long; olive-green above, the wings

and tail being dusky, with feathers edged with greenish; throat light-ash; sides of the head, breast, and flanks bright yellow; thus having more yellow than any other Vireo except the Yellow-throat; wing-bars yellowish-white; vent white; *iris white*. On the whole, this is rather a southern bird, and barely reaches Western New York and Southern New England. Partial to thickets, especially about swamps, it is local in its distribution, and may be associated with the smilax or green-briar. The vocal habits of this bird are wholly different from those of the rest of the Vireos. Mr. Burroughs says: "The song of this bird is not particularly sweet and soft; on the contrary, it is a little hard and shrill, like that of the Indigo-bird or Oriole; but for brightness, volubility, execution, and power of imitation, he is unsurpassed by any of our northern birds. His ordinary note is forcible and emphatic, but, as stated, not especially musical; *chick-a-rè'r-chick*, he seems to say, hiding himself in the low, dense undergrowth, and eluding your most vigilant search, as if playing some part in a game. But in July or August, if you are on good terms with the sylvan deities, you may listen to a far more rare and artistic performance. Your first impression will be that that cluster of azaleas, or that clump of swamp-huckleberry, conceals three or four different songsters, each vying with the others to lead the chorus. Such a medley of notes, snatched from half the songsters of the field and forest, and uttered with the utmost clearness and rapidity, I am sure you cannot hear short of the haunts of the genuine Mockingbird. If not fully and accurately repeated, there are at least suggested the notes of the Robin, Wren, Catbird, High-hole, Goldfinch and Song-sparrow. The *pip, pip* of the last is produced so accurately that I verily believe it would deceive the bird herself; and the whole uttered in such rapid succession that it seems as

if the movement that gives the concluding notes of one strain must form the first note of the next. The effect is very rich, and, to my ear, entirely unique. The performer is very careful not to reveal himself in the meantime; yet there is a conscious air about the strain that impresses me with the idea that my presence is understood and my attention courted. A tone of pride and glee, and, occasionally, of bantering jocoseness, is discernible. I believe it is only rarely, and when he is sure of his audience, that he displays his parts in this manner."

"Next after the Warblers, the Greenlets (Vireos) are the most delightful of our forest birds, though their charms address the ear, and not the eye. Clad in simple tints that harmonize with the verdure, these gentle songsters warble their lays unseen, while the foliage itself seems stirred to music. In the quaint and curious ditty of the White-eye—in the earnest voluble strains of the Red-eye—in the tender secret that the Warbling Vireo confides in whispers to the passing breeze—he is insensible who does not hear the echo of thoughts he never clothes in words." (Coues).

The strictness with which this group of birds is defined as a family, alike in size, structure, color, and habits, is certainly matter for reflection. For instance, how comes each Vireo to build that neat, cup-shaped, pensive nest, so peculiar to the family, and so unlike that of any other bird? Why is a Vireo's egg so unique? or, why should it be fashioned almost as from the same mould, and colored as if by the same brush? Comes all this by chance? Is it simply a self-evolved fact? Is it not rather a bit of that great and exact system of nature, which implies the working out of a perfect plan, after the design of an Infinite Intelligence?

THE BROWN THRUSH.

As I stroll along the edge of the woods during the forenoon, I am greeted by a clear, voluble song, quite varied, and very musical, having an overflowing spontaneity, altogether peculiar. The singer is the Brown Thrush (*Harp-
orhynchus rufus*). Bearing a decided resemblance in song to its near relative, the Catbird, it has nothing whatever of the marvelous mimicry of its other near relative, the Mockingbird, all of them being related to the Thrushes proper. The spirited and very rapid warble of this so-called Thrush is exceedingly animating, and is susceptible of a great variety of interpretations. To Thoreau, while planting his beans, it seemed to say: "Drop it, drop it—cover it up, cover it up—pull it up, pull it up; pull it up;" Audubon compared it to "the careful lullaby of some blessed mother chanting her babe to repose;" while Wilson was led to say, "we listen to its notes with a kind of devotional ecstasy, as a morning hymn to the great and most adorable Creator of all." It has a novel and most pleasing sweetness to me, as this bird is but a rare resident in this part of the country. A nest before me, found near Lockport, corresponds well with the description given by Wilson and other authors—quite flat, made outside of sticks and coarse stalks of herbs, then dry leaves, and inside, of rootlets, contains four or five bluish-tinted eggs, $1.05 \times .78$, well specked all over with reddish-brown and pale lilac. It is placed in a bush, sometimes in a tree or hedge, occasionally on the ground, never far from it, in a thicket or bushy pasture along or near the woods, such being the chosen places of its residence. In some parts of the west, where it keeps to the narrow strips of wood which skirt the streams of the prairies, and which are frequently quite deeply overflowed in summer,

the nests are placed quite a distance from the ground, and always above the highest mark of the flood.

When the nest of this species is approached, especially if the young are hatched, the parents become greatly excited, uttering a strong, metallic *chip*, which is alike noticeable and characteristic.

Some 11.25 long and 13.30 in extent, the entire upper parts reddish-brown, the lower parts, except the throat, creamy-white, spotted and streaked with brown or black, thus showing a relation to the Thrushes—it is especially noticeable by means of its long tail, which it drops and partly spreads as, with head and somewhat long bill thrown forward, it perches and sings in full view.

Audubon's fine picture of a scene he witnessed—a group of Brown Thrushes driving the black snake from a nest as he twines around its support, jostling out the eggs and squeezing the life out of the mother-bird—represents the neighborly spirit and noble courage of this species. It is easily domesticated and capable of remarkable friendship for man. One kept by Dr. Bachman used to follow him about the yard and garden. "The instant it saw me take a spade or a hoe," he says, "it would follow at my heels, and as I turned up the earth would pick up every insect or worm thus exposed to view. I kept it for three years, and its affection for me cost it its life. It usually slept on the back of my chair, in my study, and one night the door being accidentally left open, it was killed by a cat. I once knew a few of these birds to remain the whole of a mild winter in the State of New York in a wild state."

Mr. Bartram, the distinguished naturalist of Philadelphia, and the friend of Wilson, furnished the latter with the following note, concerning the sagacity of a Brown Thrush which he had domesticated. "Being very fond of

wasps, after catching them, and knocking them about to break their wings, he would lay them down, then examine if they had a sting, and, with his bill, squeeze the abdomen to clear it of the reservoir of poison before he would swallow his prey. When in his cage, being very fond of dry crusts of bread, if, upon trial, the corners of the crumbs were too hard and sharp for his throat, he would throw them up, carry and put them in his water-dish to soften, and then take them out and swallow them."

The Brown Thrush is a bird of the Eastern United States, wintering south, extending northward in summer into the British Provinces, being very common about Great Manitoulin Island, and breeding throughout its range.

THE SCARLET TANAGER.

I continue my early morning ramble along the edge of a beautiful forest. The whole atmosphere seems to vibrate to the song of birds. Some of them I hear for the first time in the season. The song in yonder elm, for instance, bearing quite a resemblance to that of the Robin, only softer and less copious and fluent, is fresh and new this morning; it is the song of the Scarlet Tanager (*Pyrranga rubra*), and compares well with any song in the woods, short of that of the Thrushes. And yet neither Wilson nor Audubon mentions anything more of song for this bird than the *chip, chur-r-r-r*, which is its common note. There, I get a full view of him now, amidst the dark green of that hemlock. Always slow and dignified in his motions, what a brilliant beauty he is! Nearly the size of a Baltimore or a Bobolink, 6.75 long and 11.73 in extent, he is a pure, bright scarlet, with jet-black wings and tail. Moving with a steady flight, he has lit on the side of a moss-covered log, by a small pool, smooth as a

mirror. The scene is double, for the bird in the water is as brilliant as that among the moss; and the water mirrors not only the bird and the moss-covered log, but the sky. I sympathize with this little creature's peaceful pleasures as he dips his bill and drinks, then straightens himself up, filis his throat and warbles, and drinks and warbles again. Did Eden itself afford anything prettier than this of its kind? Even the Creator must experience delight in such quiet joys of His creatures.

For the first week after his arrival the Tanager seems anxiously waiting for his rather plain colored mate—of dull green above, yellowish beneath, and dusky wings and tail. I once found her, however, delicately tinged with red, a genuine beauty. During this time of waiting, he will keep up his *chip, chur-r-r*, sometimes in a most animated manner. Only occasionally will he indulge in his fine warble. Meanwhile he keeps almost entirely to the woods. Rarely he may be seen on the fence, or he may stray to the orchard, or, if you are plowing near the woods, a half-dozen of these scarlet beauties may visit your furrow, and glean insects, according to their common habit of diet.

When the female arrives, shy and retiring, according to the manner of female birds at such times, she at once receives the most winning attentions. Now the song is more frequent, the utterance of the common note may be quite excited, and there is a display of graceful motions and brilliant colors. See him stand before her with drooping wings and spreading tail! How finely he hovers in her presence, looking like burning scarlet amidst the black cloud of his vibrating wings. Now she is joined to her consort, and for the rest of the season the two are inseparable.

Soon they retire, for the most part, pretty well into the forest, generally choosing as the site for their nest the

horizontal bough of some pretty good sized tree, anywhere from ten to thirty feet from the ground; oftener near the latter height, though I have pulled down the limb and looked into the nest. A frail fabric, indeed, is this nest. Begun with small twigs, stalks of weeds, strips of bark, with a very little wool or down, perhaps, and lined with fine rootlets or very fine dried spray of some evergreen (in this locality generally the hemlock), the whole being somewhat shallow, and very raggedly woven; one may, almost count the eggs from beneath. These, three or four, laid here late in May, are .90 × .65 of an inch, delicate light-green, specked or heavily spotted with reddish-brown. This nest is often imposed upon by the Cow Blackbird. I once found one containing four of these eggs, and but two of the Tanager's; the former being in various stages of incubation, while the latter were nearly fresh.

Wilson relates a beautiful incident concerning the parental affection of the Tanager. He says: "Passing through an orchard one morning I caught one of these young birds that had but lately left the nest. I carried it with me about half a mile to show it to my friend, Mr. William Bartram; and, having procured a cage, hung it up in one of the large pine trees in the botanic garden, within a few feet of the nest of an Orchard Oriole, which also contained young, hopeful that the charity or tenderness of the Orioles would induce them to supply the cravings of the stranger. But charity with them, as with too many of the human race, began and ended at home. The poor orphan was altogether neglected, notwithstanding its plaintive cries; and, as it refused to be fed by me, I was about to return it back to the place where I found it, when, towards the afternoon, a Scarlet Tanager, no doubt its own parent, was seen fluttering round the cage, endeavoring to get in. Finding this impracticable, he flew

off, and soon returned with food in his bill, and continued to feed it till after sunset, taking up his lodgings on the higher branches of the same tree. In the morning, almost as soon as day broke, he was again seen most actively engaged in the same affectionate manner; and, notwithstanding the insolence of the Orioles, continued his benevolent offices the whole day, roosting at night as before. On the third or fourth day he appeared extremely solicitous for the liberation of his charge, using every expression of distressful anxiety, and every call and invitation that nature had put in his power for him to come out. This was too much for the feelings of my venerable friend; he procured a ladder, and, mounting to the spot where the bird was suspended, opened the cage, took out the prisoner, and restored him to liberty and to his parent, who, with notes of great exultation, accompanied his flight to the woods. The happiness of my good friend was scarcely less complete, and showed itself in his benevolent countenance; and I could not refrain saying to myself: If such sweet sensations can be derived from a single circumstance of this kind, how exquisite—how unspeakably rapturous—must the delight of those individuals have been, who have rescued their fellow-beings from death, chains, and imprisonment, and restored them to the arms of friends and relations! Surely in such God-like actions virtue is its own most abundant reward."

In time of cherries, when the family is absent, and everything is quiet, the Tanager may come even into the doorway to vary his insect diet with this fruit, so highly in favor with the birds.

Late in summer, or early in autumn, the families move south, the old male having changed his coat of scarlet for one of green, sometimes quite a little spotted with yellow

the young male a beautiful dark green, with black wings and tail, the young female resembling her mother. Wintering in the tropics, they range northward in spring, through the Eastern United States, somewhat into the British Provinces, though becoming rare already in Northern New England. They breed throughout their range.

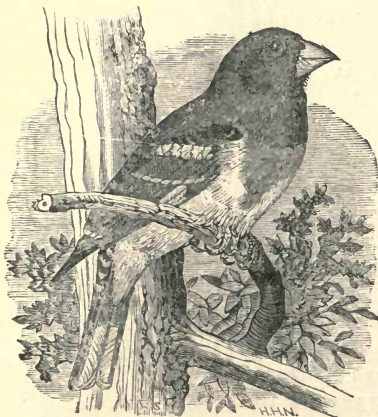
The observer of birds will soon notice that in about every case of a brilliant male, the female is exceedingly plain, as are also the young. Here is one of those suggestive facts, which lead the reflecting mind to ask the reason why. This does not look like mere chance; moreover, it serves a purpose. Excepting a brief period in the breeding season, the life of the female is of immensely greater importance to the perpetuation of the species than that of the male; and the young, all unsuspecting of danger, need special protection. Their plain colors render them alike unattractive to the eye of man, and inconspicuous to the bird or beast of prey. Even the male sometimes has his gay livery only in the breeding season, thus being protected in his southern migration and early winter residence. Can any ingenious conjecture of "Natural Selection" explain this significant fact in coloration? Is not this an evidence of mind in the creation? Or will the objector attribute a faculty of conscious design to matter itself? Might he not then as well believe in a personal Creative Intelligence? How else shall we explain this mysterious something revealed in matter, which seems to know just what is fit under all circumstances?

Similar to the above is the Summer Redbird (*Pyrranga aestiva*). The length is 7.20, the stretch 11.87; the male is vermilion, brightest on the head, darker on the back, bright beneath; wings and tail brownish. The female is olivaceous-green above, yellowish below, wings darker or brownish.

Young, similar to the female. The bill is thicker in this species than in the Tanager. This is a bird of the Southern States, extending into Southern Illinois in the west. Its nest and eggs are similar to those of the Tanager, and its song is loud and melodious.

ROSE-BREADED GROSBEEK.

That song coming from the edge of the woods, and strongly resembling the finest performance of the Robin—only the warble is much more copious, continuously pro-



ROSE-BREADED GROSBEEK.

longed, and finely modulated with a peculiar richness, purity, and sweet pathos in the tones—is the music of the Rose-breasted Grosbeak (*Goniaphea ludoviciana*). Jet black with snow-white markings, the tint of rose on his breast and under his wings, he is the most strikingly beautiful of all our summer visitants; and in the charm of song, as a poet and artist of the woodlands, he may rank even with

the Thrushes. About 8 inches long; the head, neck and upper parts are black; bill, rump, under parts and markings on wings and tail, white; breast, rose-carmine; lining under the wings, delicate rose. The female has the upper parts light brown, streaked with darker; a line over the eye, a slight one below it, and one over the middle of the crown; tips of wing coverts, and under parts, white; breast and sides streaked and spotted with brown; bright yellow under the wings, and sometimes a tinge of the same on the upper part of the breast. I have also seen a rose-tint mixed with the yellow under her wings, and a most delicate tinge of the purest rose on the white rump of the male. The large bill of this bird, so strongly characterizing it and the group to which it belongs, is in such harmony with the general shape of the head as in nowise to mar its beauty. Indeed, the fleshy-tinged whiteness of this prominent organ rather adds to the elegance of the species.

The stranger to our sylvan retreats will scarcely meet this charming bird; for its most agreeable summer resort is in swampy woods, where the shadows are deepened by tangled vines and a rank undergrowth, where flowers are large and deeply tinted from rich vegetable molds, and where the fragrant atmosphere is cool and moist. Often it is found in the thickets forming a sort of border-line between field and forest, and often in the lofty arcades of the densest and darkest woodlands. In such places, and rather local in his distribution, the male makes his appearance in Western New York from the first to the tenth of May; and stretching himself on tiptoe, delivers, in a hurried and spirited manner, his rare and delightful melody, giving one the impression of an exalted and unutterable joy in a language which means much, but leaves much behind. Sometimes several appear together, vying

with each other in song, and gamboling in the most sportive manner. A few days later, when the leaves unfolding in their soft down have fully expanded, the coy female appears. Her plain light colors are strongly in contrast with the ebony, chalk-white and deep rose of her consort; and as she is almost voiceless, a glimpse of her amidst the thick foliage is rather rare.

The nest of this species, built late in May, is a frail and loosely-woven affair, placed in the top of a bush or on the lower horizontal limb of a tree. It is composed outside of small sticks, fine twigs, or coarse strawy material, ornamented with a few skeleton-leaves, and is lined with very fine twigs of some evergreen (here, of the hemlock), or with fine rootlets, sometimes being finished with horse-hair, and the whole structure so loosely put together that one can see through it from beneath. The eggs, four or five, $1.00 \times .75$, are light green, specked and spotted with brown and lilac, the markings often thickened or wreathed around the large, sometimes around the small, end. In every way the nest and eggs bear a strong resemblance to those of the Scarlet Tanager, the nests of both these brilliant species being a sort of rude log-cabin affair, compared with the elegant nest-homes of many of our feathered tribes.

I have more frequently found the male than the female on the nest. When disturbed they both keep very near, moving about the branches with much excitement, as they emit a sharp, creaking *kimp, kimp*, quite unlike the note of any other bird of my acquaintance. Though abundant here in their migrations, and breeding very commonly, it often requires a great deal of careful watching to get a glimpse of even the male. So shy and retiring is he at nearly all times as to be much more frequently heard than seen. He has been in favor as a cage-bird, and is said by some

to sing freely in the night. Though he belongs to the Sparrows and Finches, and is therefore a seed and grain-eating bird in structure, he devours multitudes of insects. In early autumn, as the young males go south, resembling the female in color and marking, only much darker and richer, and delicately tinged with rose on the throat and breast, on the crown, and under the wings, they are truly beautiful.

Wintering in the tropics, migrating through Eastern North America, rather rare in New England, but not uncommon in Nova Scotia, the Rose-breast breeds from the Middle States to the latitudes of Labrador. It will thus be seen to belong to the Canadian as well as to the Alleghanian Fauna.

The Blue Grosbeak (*Goniaphea cœrulea*), some 7.25 long, the male blue, the female brown, is a southern species, reaching the District of Columbia, or even Pennsylvania in the east, and breeding commonly about Manhattan, Kansas, in the west. Excepting its greater size, it bears a great resemblance to the Indigo Bird in color, song, and nidification. The nest is in a tree not many feet from the ground. It is rather bulky, composed externally of paper, weeds, strings, bits of cotton or wool and cast-off snake-skins, and is lined with rootlets, fine grasses or horse-hairs. The three or four oval eggs, .95 × .62, are pale-blue.

The Evening Grosbeak (*Hesperiphona vespertina*) is a straggler from the northwest. Some 7.50–8.50 long, "dusky olivaceous; brighter behind; forehead, line over eye and under tail-coverts, yellow; crown, wings, tail, and tibiæ black, the secondary quills, mostly white; bill greenish-yellow, of immense size." (Coues.) It is noted for its melodious evening song.

CHAPTER XIII.

THE SWAMP, THE FIELD, AND THE LAKE.

IN all the domain of nature there is nothing which closely resembles the nidification of birds. Certain reptiles lay eggs, but, properly speaking, make no nest; nor are their eggs, which differ very materially from those of birds, incubated by the warmth of their bodies. Every animal comes from an egg, but in the case of mammalia, the young are brought forth alive, and nourished by the milk of the female parent. In the case of a bird, whether moving in the air or on the water, lightness is a prime necessity. Hence, in bringing forth their numerous progeny, they do not perform the office of gestation; but the nest, and the external warmth of the body, so well secured by the plumage, serve the purpose of the uterine organs in the mammalia. Wonderful indeed is that internal impulse of instinct, by which the bird is induced to make a nest, and by which it is guided in the location and manner of constructing the same. How came that mother-bird to know she needed a nest? Who instructed her to adapt it to its peculiar purpose? What strange power keeps her on the nest till the young are brought forth?

For the most part, the different species of birds have certain well-defined plans for building their nests, as well as certain places for locating them. The nest is placed on the limbs of a tree or bush, in a natural or prepared cavity, in an excavation of the earth, in some cemented structure, or,

more frequently than anywhere else, on the ground. Again these nests are variously formed and joined together. They are flat and loosely built of coarse materials, in the case of most birds of prey and Herons, and these birds are called platform-builders; or, they are more or less cup-shaped, rimmed up, as in the case of the majority of nests built about trees and bushes, and on the ground; or, they are more or less basket-shaped, as, for example, the nests of the Red-winged Blackbird and the Vireos; or, they are sewed together, as those of the Orioles, or that of the famous Tailor-bird; or, they have the structure of a loose felt; or, they are dome-shaped. Hence, some very intelligent writers have attempted to classify birds according to their styles of nidification, calling them carpenters, masons, miners, platform-builders, basket-makers, felt-makers, weavers, cementers, tailors, etc. But this method of classification fails to conform to any other system, and bears no relation whatever to the most important data for determining orders. Birds so similar in structure and habit, as to represent the same order, may vary essentially in their nidification. Most kinds of Hawks, for instance, build platform-nests in trees, while other kinds construct quite different nests on the ground, and others still lay their eggs in cavities of trees, almost without any nest whatever. The different kinds of Swallows also adopt widely different modes of nesting, some occupying cavities in trees or stumps, while others are miners, tunneling a cavity into the ground, and others still are cementers. Besides, the above method is imperfect in itself, failing to make provision for some very important groups, as those which commonly occupy cavities already prepared, or those which lay their eggs on the ground without any nest, or those which build their nests, raft-like, on the water. Nor does the same species always construct or

place its nest in the same way. The Song Sparrow is generally a ground-builder, but in the latter part of the season it frequently places its nest in a hedge or in a low bush. The Crow Blackbirds, in these parts, invariably build in a tree, but in the south, Audubon found them appropriating the cavities of trees, while Wilson not infrequently found them a sort of parasite on the nest of the Fish Hawk.

For the most part, birds' eggs are objects of great beauty. Their form is unique and fine, their surface highly finished, and their colors and markings often elegant. How strongly differentiated too, generally, are the eggs of the birds of each family! The blue-green eggs of the Thrushes; the translucent white eggs of the Woodpeckers; the delicate, white gems, specked with red, deposited by Titmice, Nuthatches and Creepers; the roundish, pure-white eggs of the Owls; the light bluish-green eggs of the Herons; and the smooth-shelled, creamy or green-tinted eggs of the Ducks, are all data for classification to the naturalist.

Richard Owen, the great comparative anatomist of England, after giving the complicated and wonderful history of an egg in its various stages till it reaches perfection; and after showing the nice contrivances in the yolk and albumen, by which the cicatrice or germ is always held uppermost, no matter how many times the egg is turned over, in order to keep it in contact with the sitting dam, and so secure incubation and protect it from jars or injuries in harsh movements; and after showing how "the domed form of the hard shell enables it to bear the superincumbent weight of the brooding mother," well says: "How these modifications of the oviparous egg in anticipatory relation to the needs and conditions of incubation can be brought about by 'selective' or other operations of an unintelligent nature is not conceivable by me."

These different birds' eggs, placed in varied and artistic styles of nests, make bird-nesting peculiarly fascinating, especially when it gratifies a thirst for knowledge. Then the careful manner in which many nests are hidden away among grass and foliage, or placed in remote regions, almost beyond the reach of civilization, makes them objects of an exciting curiosity, and contributes greatly to their value.

One of my most interesting places for the study of birds in their breeding haunts is Tonawanda Swamp, bordering Orleans County on the south, extending into Genesee County southward, and far to the eastward and westward. Very different indeed is the character of its various localities. Here, in the midst of an almost undisturbed wilderness are glassy ponds and coves, where various water-birds revel in their migrations, and in the vicinity of which some rear their young. Here are miry marshes, tracts of fallen trees partially submerged, forests and low lands of dense shrubbery standing in the water a great part of the year; dense groves of cedar, extensive moss-bogs, cranberry marshes, and wild meadows dry in summer and in early autumn. It is a very paradise of wild flowers, shrubs, climbing and running vines, and plants both delicate and curious.

BLACK-THROATED GREEN WARBLER.

On a beautiful morning, the 7th of May, I enter one of the cedar groves of the above region. In these deep shadowy recesses I hear in various directions the song of the Black-throated Green Warbler (*Dendroica virens*). The notes are most peculiar, and once identified can never be forgotten. Many writers have described this song, for it seems to suggest to almost every one some fancied phrase. One has given it as "*Hear me Saint Ther-e-sa;*" while one of my private correspondents represents the song by the ditty,

"A little bit of bread and no cheese;" and one distinguished writer has indicated it simply by straight lines, thus, ———
———√———. In all these attempts I can detect a fair description of the song, though none of them would have been suggested to my ear. I never hear the song, however, without thinking of the following resemblance:—"Wee-wee-su-see," each syllable uttered slowly and well drawn out; that before the last in a lower tone than the two former, and the last syllable noticeably on the upward slide; the whole being a sort of insect tone, altogether peculiar, and by no means unpleasing. It seems somehow to harmonize finely with pines, larches and hemlocks.

The ordinary four syllables of this ditty are sometimes increased in number in the first part, sounding like *wee-wee-wee-wee-su-see*, and it is then uttered more hurriedly, making you feel that a breeze may soon spring up among the pines; and generally the different strains are intermixed with sharp chipping notes, making the bird appear more spirited as it nears you sufficiently to bring these metallic notes within hearing.

Many a time have I strained my eyes after this little songster, looking up into the thick cedars till my neck seemed almost dislocated, and getting only an occasional glimpse of him, so shy is he as he moves leisurely about in these shadowy abodes. A sight of him, however, well rewards the effort, for he is a rare beauty. About 5.00 long, moulded after the *Dendroica*, the olivaceous-green above often contains fine triangular spots of black; the dusky wing and tail feathers have a narrow, outward edge of white, while the cheeks of lemon-yellow with a wavy line of blackish through the eye, the white bars across the wing, and the jet-black throat, breast and sides bounding the greenish white under parts, differentiate him strongly. The colors and markings

of the female are similar, but generally more obscure, although I have seen her almost as fine as the male.

This Warbler is always to be associated with evergreen groves and forests. In New England it is found among the pines, here among the cedars and hemlocks. As its nest is placed well up in the almost impenetrable thickets of these branches, it is exceedingly difficult to find. In this (Tonawanda) swamp, where the bird resides in abundance throughout the summer, I have searched for its nest days at a time, lying on the ground and watching the birds in all their movements, and then climbing into the trees and continuing to observe them while they kept up their fitting motions and their song, almost constantly throughout the day, and even into the dusk of the evening; but never did I succeed in finding the nest in this locality. On the 17th of last June (1881), at the foot of the Lecloche Mountains, just north of Great Manitoulin Island, on the Georgian Bay, I finally found the nest. About half a mile from the bay, where the rushing waters of Lacloche Creek left a lake in the mountains for this grand outlet, I had discovered the Warblers to be very numerous—the Black-throated Blue, the Yellow-rump or Myrtle Bird, the Yellow-backed Blue, the Black-and-yellow or Spotted, the Chestnut-sided, and I think I also heard the Black-poll Warbler. But so tormentingly numerous were the black flies, mosquitoes, and gnats, or “no-see-ums,” as the Indians call them, that to remain there for observation was unendurable. Again and again did I apply the olive oil and tar, so highly recommended as a preventive of this nuisance, but it relieved me only a little longer than while I was rubbing it on. Noticing that the Indians in my vicinity made their half-open wigwams apparently free from these vermin by a smudge in front, or to the wind-

ward, I concluded to profit by their example, and setting a match to a few dry leaves and shreds of birch-bark, upon which I piled green hemlock boughs, I soon had a relief, which was both complete and agreeable; the hemlock giving off a most delightful fragrance, as well as an abundance of smoke, in combustion. For a radius of several rods around me my minute tormentors were obliged to flee; and on a bed of moss surrounded by the delicate and odorous little twin-flower (that beauty of the northern parts of both the Old World and the New, so greatly admired by, as well as named after, the great Linnæus), I continued my observations in peace. For a while I watch a pair of little Yellow-backed Blue Warblers, tugging at a bunch of so-called long-green moss—alias *usnea*—hanging from the dead limb of a tall hemlock; but I am soon diverted by the near approach of a Black-throated Green Warbler, hopping about very nervously, her mouth full of small, green *larvæ*. Understanding the sign full well, I am all attention, and the bird seems equally attentive to me. For some time she dallies and delays, but the knowledge of hungry little mouths overcomes the parent's hesitation, and in a more or less zigzag line, now behind the thick branches and now in plain sight, she soon reaches the nest; which, behold! is on the limb of a young hemlock, *just above my head*. "So near and yet so far!" full well applies to bird-nesting. Not a few birds deserve but little sympathy in the loss of their nests—they are such witches at hiding them away! No time to lose. I hug the tree and scramble to the nest, some twenty feet from the ground, a few feet from the trunk, and where the limb sends out several small boughs. The foundation of the structure is of fine shreds of bark of the white birch, fine dry twigs of the hemlock, bits of fine grass, weeds, and dried rootlets, intermixed with *usnea*, and lined

with rootlets, fine grass, some feathers, and horse-hair. It was rather loose, open, and bulky, and contained four young, partly fledged. Failing to find the eggs for myself, I resort for description to a set from Reading, Massachusetts, in Professor Ward's collection at Rochester, N. Y. They are four in number, about $.70 \times .49$, creamy-white, having a well-defined and beautiful wreath of spots and small blotches of red, brown and lilac, intermixed with a few specks of black.

Wintering in Cuba, Mexico and Central America, *Dendroca virens* ranges through Eastern North America, breeding from New York and Southern New England northward to Newfoundland. It enters its breeding habitat by the first week of May, and leaves in October. It has been found in Greenland and in Europe as a straggler.

THE BLACK-AND-WHITE CREEPING WARBLER.

In this thick grove of cedars I am almost constantly within sight or sound of the Black-and-white Creeping Warbler (*Mniotilta varia*). About five inches long, spotted and streaked all over, except a white space underneath, with jet-black and chalk-white, this bird is very conspicuous as it moves in a hopping, jerking manner and in a spiral direction, very much in the style of the Brown Creeper, along the trunks and larger limbs of trees. Like the latter, too, it has the habit of descending to the lower part of the trunk of a neighboring tree, when getting pretty well up; but its sharply defined markings, especially the broad white line over the head and back of the neck, cause it to be seen much more readily than its little brown neighbor, which is so similar in color and markings to the bark which it climbs with such ease and gracefulness. But while his *movements* are those of a Creeper, the *structure* of *Mniotilta* is that of a

Warbler, except that his front toes are a little more joined together at the base, and his hind toe a little longer and his bill somewhat curved toward the tip. Very remarkable indeed is this joint relationship of certain birds with two or more different groups, so that it is only by a careful noting of their stronger affinities that we can find their rank in classification. They serve as a sort of softening or blending of the otherwise harsher boundaries of orders.

Not only does our little bird readily *attract* the eye; his fine, soft and yet distinct song, *ki-tsee, ki-tsee, ki-tsee, ki-tsee*, as slender to the ear as "hair-wire" to the eye, and rather monotonous indeed, but so peculiar, so tender, so musical, as even to soften and sweeten surrounding nature—is equally attractive and pleasing to the ear. Warbler or Creeper, he is one of the most welcome and beloved companions of the dark woods and deep, swampy ravines which he is wont to inhabit. Always keeping more or less to the lower story of his shadowy abodes, his nest is generally on the ground, near the root of a decaying stump or tree, and so placed that "an overhanging rock, a log, the branching roots of a tree, or herbage of the preceding year affords protection." It is a rather loose and scanty structure of dried leaves and grasses, strips of bark, or pine needles, containing perhaps some vegetable down and horse-hair as lining.

The eggs, averaging about four, $.70 \times .50$ or a little more, and somewhat pointed, are creamy white, finely specked, more thickly around the large end, with light brown and a little pale lilac. The situation of this Warbler's nest seems to vary considerably, however, in some cases. In Louisiana Audubon found it "usually placed in some small hole in a tree." Nuttall found one "nicked in the shelving of a rock." Dr. Brewer reports one found in the drain of a

house, while H. D. Minot found one "in the cavity of a tree rent by lightning, and about five feet from the ground," and another "on the top of a low birch stump, which stood in a grove of white oaks."

A nest, received from Nova Scotia, found with callow young on the 19th of June, was placed on the top of an old stump, about two feet from the ground, so set in the moss and dried leaves as to be pretty much concealed, the top of the stump somehow supporting several young maples. The nest is quite deep and substantial, composed of leaves and coarse bark-fibers throughout. It bears a decided resemblance to the nest of the Golden-winged Warbler.

The *chipping*, or ordinary alarm and conversational notes, of the Black-and-white Creeper is somewhat varied, and the female is not so clearly marked, having the black and white of the throat of the male replaced by a dull white or grayish. Migratory throughout Eastern North America, even to the fur countries, a few only remaining in the extreme Southern States in winter, this bird breeds throughout its range, in this habit resembling the Brown Creeper rather than the Warblers.

As I observe this Creeping Warbler, so industriously gleaning the smaller insects with their eggs and larvæ from the bark of our forest trees, I am reminded* of the economic utility of our birds in the destruction of insects. The Woodcock and Wilson's Snipe bore into the soft ground in search of worms; the Sparrows, the Blackbirds, the Thrushes, and many others, glean the caterpillars, grubs, beetles and bugs upon its surface; the Barn and Eave Swallows, the Purple Martin, the Bluebird and the Common Wren, greatly reduce the spiders and other noxious insects about our residences; King Birds, Shrikes, Orioles, Robins, Goldfinches, the Yellow Warbler and the Warbling Vireo

protect the gardens and orchards against their numberless pests; the Warblers, Vireos, Creepers and Nuthatches guard our noble forests from the topmost foliage to the lower bark-crevices; while even the Hawks and Owls contribute not a little to the same great work of keeping in check the swarming hosts of insects. The feathered tribes are therefore our most useful allies against that part of animated nature which more than any other endangers our welfare, namely, those insects which threaten our very subsistence. It may be doubted whether the indiscriminate slaughter of any of our birds is wise.

Changing my position somewhat in this great swamp, I come into a wet slashing, having a dense second growth of evergreens and various kinds of hard wood. O, the native vines and wild flowers which everywhere abound! How completely that Virginia creeper has enveloped the trunk and larger limbs of yonder tall elm, its digitate or hand-shaped leaves of five pointed and serrate leaflets of dark and glossy green, covering the bark like a thick luxuriant mantle, and making the tree appear at once most graceful and superb. That virgin's bower entwining its petioles so elegantly around a clump of bushes, either in its bloom so like a fall of light snow-flakes, or in the heavy plumes of its fruitage, may vie with any member of its family, even the gay hybrids of the Old World. The remains of that large tree—a very monarch of the forest, fallen generations ago perhaps—is enrobed in a thick plumose covering of hypnum mosses, variegated with star-flowers and mitreworts, in a manner which defies description. And what shall we say of the lady slippers, azalias, and honeysuckles, just about to unfold their charms? Art can do much in the way of placing and adjusting nature's beauties, but what can equal the grace of wild vines, plants and flowers in their native

arrangements? The wild grape-vine will festoon the forest into domes, arches, and colonades, till it would seem the very haunt of faries and sylvan deities. Liverworts, lichens and ferns will drape the scars, rents and chasms of the earth's surface with an inimitable beauty. I have seen an old decayed stump in the forest, so dressed up from base to top in fine mosses, and the whole broad top such a mass of enchanter's nightshade with its delicate spray of leaves and ethereal white blossoms, as to make it an object to be coveted for the most royal domain. Had I enough of Mother Earth that I could call my own, I would have a flower garden according to nature; one which might show no trace of human interference. If Adam and Eve had the judgment and good taste generally attributed to them, in some such manner, I think, must they have kept the Garden of Eden.

THE CANADA WARBLER.

From a point in the thick bushes, somewhere near by, there comes a song so peculiar both in enunciation and in tone, that my genial companion in these sylvan studies challenges my imitation of it. I finally resolve it, however, into the following syllables:—*chi-reach-a-dee, reach-a-dee, reach-a-dee-chi*—uttered in a hurried and spirited manner, with a striking mixture of sibilant notes, and so much of ventriloquism that it seems almost impossible to locate the singer, though he be but a few yards distant. The bird, moreover, is so shy and such an adept at concealment in the thick foliage that I spend many minutes in the most attentive observation before I can get even a glimpse of him. Finally, while on hands and knees I am peering out from under a thick bed of cinnamon ferns, the songster, all unconscious of my presence, stands out in full view. About 5.50 long, the bluish-ash on the entire upper part blends

with the shadows in the thicket, and the bright lemon-yellow of the entire under parts seems almost the effect of the sunlight through the openings among the leaves; but there is a broad collar of jet-black spots across the breast, over the forehead and down the cheeks and sides of the neck, where the bluish-ash of the upper parts joins the yellow of the throat, the former color shading into clear black as it meets the line—these markings, along with the yellow eyelids, help me to define him as the Canada Warbler (*Myiodyctes canadensis*). I find the bird abundant here in almost any swampy region throughout the breeding season; and there is, I think, no appreciable difference between the sexes. Having identified my specimen, and risen from my place of concealment, the bird becomes greatly excited, hopping about among the leaves, bowing and “courtesying” prettily indeed, but not obsequiously, and uttering a sharp chipping note. I am reminded by the white or flesh-colored legs and feet that this is what is commonly called a Ground Warbler, and that its nest, therefore, is on the ground. I make diligent search, as I have often done since, but all in vain. A Ground Warbler’s nest is one of the very hardest to find. Others, however, have been fortunate enough to find the nest, and from them I make out the following description:

Mr. Burroughs found one in the bank of a stream; Mr. Boshart, of Lowville, N. Y., found one sunk into the moss on the side of an old log, while others generally report the nest as found on the ground; Audubon alone describing it as built otherwise—“in the fork of a small branch of laurel, not above four feet from the ground.” It is coarsely and rather loosely built of leaves, dried grasses, etc., lined with horse-hair. The eggs, $.68 \times .50$, are white, marked with brown and lilac, somewhat clouded at the large end, and slightly speckled all over.

Wintering beyond the United States, the Canada Warbler extends through Eastern North America to Labrador, breeding from New York northward.

I do not think this bird is as numerous far to the north or northeast as it is in suitable places in this locality. Mr. Chamberlain reports it as only an occasional summer resident in New Brunswick, and I did not find it in Nova Scotia, nor does Mr. Downs, of Halifax, report it in his private list of the Warblers sent to me.

Its bill bears a strong resemblance to that of a Flycatcher, and it has therefore been called a Flycatching Warbler.

THE WINTER WREN.

Working my way back among the cedars to a spot where the timber has been somewhat thinned by the axe of the woodman, and where brush is piled up here and there, I am startled by a most remarkable bird-song, which I have several times heard in these parts before, but have never been able to identify. Copious, rapid, prolonged and penetrating, having a great variety of the sweetest tones, and uttered in a rising and falling or finely undulating melody, from every region of these "dim isles" this song calls forth the sweetest woodland echo. It seems as if the very atmosphere became resonant. I stand entranced and amazed, my very soul vibrating to this gushing melody, which seems at once expressive of the wildest joy and the tenderest sadness. Is it the voice of some woodland elf, breaking forth into an ecstasy of delight, but ending its lyric in melting notes of sorrow? I strain my eyes this way and that way to get a glimpse of the songster in the gloom of these damp, shadowy regions, but cannot determine even the precise direction of the sounds, so much of ventriloquism is there in this wonderful performance. Having turned to every point of the

compass, I finally discover the singer. He is perched on a small dry limb of a cedar a few feet from the ground. The volume and tone of the song lead me to expect a bird at least as large as a Thrush, but lo, he is one of the most diminutive of the feathered tribes—the Winter Wren! I cannot be mistaken, for quite near and in full view, his short tail thrown forward and his head partially raised, I can see his breast swell and tremble while he several times repeats his song. About 4.00 long, and thus about a half inch shorter than the Common or House Wren, and of the same reddish-brown waved with darker, the Winter Wren (*Anorthura troglodytes* var. *hyemalis*) is to be distinguished by his much shorter tail, and his white or whitish markings on the sides of the head and on the primaries. But one does well to make out this much while the bird is “in the bush;”—so diminutive, so nearly the color of dried bark and leaves, and dodging in and out of rock-crevices, brush heaps and bushes with the ease and rapidity of a mouse, it will be necessary, in most cases, to obtain the bird “in the hand” in order to identify it.

Though this species may be heard occasionally in the cool cedar groves of Tonawanda Swamp throughout the breeding season, I have not been one of the very few fortunate enough to find its nest. Audubon found two nests. One was in the pine woods of Pennsylvania, near Mauch Chunk, on the lower part of the trunk of a tree, “a protuberance covered with moss and lichens, resembling those excrescences which are often seen on our forest trees, with this difference, that the aperture was perfectly rounded, clean, and quite smooth. * * * Externally, it measured seven inches in length, four and a half in breadth; the thickness of its walls, composed of moss and lichens, was nearly two inches; and thus it presented internally the

appearance of a narrow bag, the wall, however, being reduced to a few lines where it was in contact with the bark of the tree. The lower half of the cavity was compactly lined with the fur of the American Hare, and in the bottom or bed of the nest there lay over this about half a dozen of the large, downy abdominal feathers of our Common Grouse, (*Tetrao umbellus*). The eggs were of a delicate blue color, somewhat resembling the paler leaves of a partially decayed rose, and marked with dots of reddish-brown, more numerous towards the larger end." The second nest he found "was attached to the lower part of a rock," on the bank of the Mohawk River. It was similar to the other, only smaller, and contained six eggs, the same number as found in the former.

The nest, with eggs of this species upon which our later ornithologists have been pretty much dependent for their descriptions, was found by W. F. Hall in Eastern Maine; the "nest built in an unoccupied log-hut, among the fir-leaves and mosses in a crevice between the logs. It was large and bulky, composed externally of mosses, and lined with feathers and the fur of hedge-hogs. The shape was that of a pouch, the entrance being neatly framed with sticks, and the walls very strong, thick, and firmly compacted. Its hemlock framework had been made of green materials, and their agreeable odor pervaded the whole structure."

Mr. H. D. Minot says: "Five eggs, not quite fresh, which I took from a nest in the White Mountains on the 23d of July (probably those of a second set), were pure crystal-white, thinly and minutely specked with bright reddish-brown, and averaging about .70x.50 of an inch. The nest, thickly lined with feathers of the Ruffed Grouse, was in a low, moss-covered stump, about a foot high, in a

dark, swampy forest, filled with tangled piles of fallen trees and branches. The entrance to the nest on one side was very narrow, its diameter being less than an inch, and was covered with an overhanging bit of moss, which the bird was obliged to push up on going in."

In 1878 Mr. James Bradbury, of Maine, found three nests, one "sunk into the thick moss which enveloped the trunk of a fallen tree," and two placed under the roots of fallen trees. All the above nests seemed to resemble each other in being more or less globular, with an entrance at the side, the external structure being of moss, or of moss and twigs, and thickly lined with fur and feathers; each nest being ingeniously concealed or ensconced away. The eggs, five or six, some $.65 \times .50$, are crystal-white, specked and spotted with reddish-brown, the markings being generally distributed or gathered about the large end.

This species, closely allied to the Common Wren of Europe, occupies all North America, wintering from the Middle States, or even New England, southward; and breeding from about the same point northward, especially in Maine and even in Labrador.

Considering the smallness of its wings, and its ordinarily short flights, the immense distances of its migrations have always been a great mystery to ornithologists. Alaska has a larger variety of this species, named *Anorthura alasensis*.

THE SHORT-BILLED MARSH WREN.

As I traverse an open marsh in another part of this same swamp, a part which is wet in the late fall and the early spring, but dry in summer, I find the Short-billed Marsh Wrens (*Cistothorus stellaris*) in considerable numbers. If dependent on the eye merely it would be exceedingly difficult to find these diminutive creatures, as they are nearly all

the time down out of sight in the clumps of bushes, the tall grasses or the still taller sedges; but one is constantly aided in the search for them by their noisy notes and odd songs. *Chip-chip-chi-chi-chi-chi*, or *tsip-tsip-tse-tse-tse-tse* — the first two or three notes being uttered more slowly, the rest very rapidly, and all in a sharp, metallic and spirited tone — may represent the song, which is not very musical, indeed, but rather pleasing, and decidedly enlivening to these otherwise quiet marshes. Like any other Wren, this species is exceedingly sprightly in all its motions, and is a very adept at clinging to and sliding up and down the culms of grasses and sedges—tipping, tilting and tossing its tail in every conceivable manner. In voice and in action it is certainly an intensely animated bit of nature. Scarcely 4.50 long, and very slender, it is streaked with light and dark brown over the head, nearly black, mixed with some reddish brown and streaked with white on the back, wings and tail dusky, barred with light brown, under parts grayish-white, shading into light brown on the sides.

The nest, about the size and shape of a common coconut, composed of dried and thoroughly bleached grasses and sedges, is closely compacted, with a clear round opening on the side near the top, and is more or less lined with vegetable down. This structure rests on the ground at the roots of the sedges, or is tied to their culms a very few inches from the ground. In this and corresponding localities it is made early in June. The eggs, some 7 or 8, about .54 X .48, so rather roundish—(Dr. Coues reports them “rather elongate”)—are of a fine porcelain-white, having the highly finished surface of the Woodpecker’s eggs. These white eggs are an anomaly among Wrens.

The Short-billed Marsh Wrens are said by Nuttall—who was the first to point them out as different from the

Common Marsh Wren—to “spend much of their time in quest of insects, chiefly crustaceous, which, with moths, constitute their principal food.”

This species differs from the Common Marsh Wren in its notes; in its shorter bill; in its darker colored breast; in its inhabiting dryer places—its nest never, I think, being placed over water; in the position of its nest, *always on or near the ground*—being composed of bleached material and very compactly made (wrongly figured by Audubon)—and, particularly, in its pure white eggs.

Wintering in the Southern States, the Short-billed Marsh Wren breeds throughout the Eastern United States to New England and Manitoba; but it is not nearly as generally distributed as its cousin of the longer bill. It reaches these middle districts early in May, and leaves early in September.

MARYLAND YELLOW-THROATED WARBLER.

Reaching a bog, where, in trying to cross, I sink at every step into an almost bottomless bed of soft moss, I hope to find something new. In respect to plants, I see at once that I shall not be disappointed. Here is the curious pitcher-plant in abundance. Its leaves, having the bowl, handle and spout of a pitcher, are full of water; and its flower, which will appear in a few weeks, will be almost as curious as its leaves. Here too, I find the marvelous little sundew, *Drosera rotundifolia*, about which the evolutionist, Darwin, has written so much. The little round leaves are thickly beset with transparent bristles, each of which bears on its extremity a viscid globule as clear as a dew-drop. These glandular hairs are said to be sensitive, and to entrap insects, but I cannot make the experiment succeed.

Around the edge of this bog, among the varied shrubbery belonging almost entirely to the Heath and Rose families,

I hear the song of the Maryland Yellow-throat (*Geothlypis trichas*), a warbler quite common to the shrubbery of our swamps and low lands. The song of this bird is very distinctive and easy to recognize. *Weech-a-tee, weech-a-tee, weech-a-tee, weech-a-tee*, in loud whistling tones, slowly and distinctly uttered, and strongly accented on the first syllable of each repetition, represent it to my imagination. Sometimes, however, a syllable of each group of notes is left out, making the melody sound like *weech-ee, weech-ee, weech-ee, weech-ee*. The song is very constant, but the singer is rather shy, keeping out of sight in the thick foliage the greater part of the time. Nearly 5.00 long, and having a very short, round wing for a warbler, the male is olive-green above, becoming grayish on the back of the head and neck, throat and under parts yellow, becoming lighter on the belly; over the forehead and eyes and down the cheeks is a broad band of jet-black, bordered behind with ash which shades into the grayish-green beyond; legs, flesh-color. The female lacks the black and ash on the head, and has the crown brownish. In sprightliness of song and distinctive color of plumage, this Warbler ranks high, being one of those bright, melodious birds of the swamp which, like certain very brilliant and fragrant flowers of the same locality, are a delightful offsetting to stagnant pools, quagmires, pestiferous vapors, and tormenting insects. Like the rest of the Warblers, it is a great destroyer of insects, without at any time injuring the products of industry.

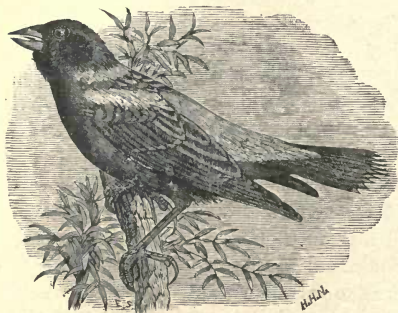
The nest of this species is on the ground near some stream, or in a low, wet place at the roots of bushes; is generally well sunken into the ground, made of dried leaves and grasses, often lined with hair, and is sometimes arched over after the manner of the Golden-crowned Accentor. Mr. W. Brewster found a nest of this species on June 3d, 1875, in

the top of a ground juniper, some two feet from the ground. The 4 or 5 eggs, some $.70 \times .55$, are white, specked and spotted, sometimes wreathed with light brown and lilac. Clear white eggs rarely occur.

Wintering sparingly in our southern border; but mostly beyond, the Maryland Yellow-throat breeds throughout the Union, abundantly in the Middle States, and commonly in New England and Nova Scotia. Audubon saw none in Newfoundland nor in Labrador.

THE BOBOLINK.

Leaving the swamp and coming out into the broad meadows in the vicinity, I am greeted by the newly-arrived Bobolink (*Dolichonyx oryzivorus*). It is difficult to speak of



THE BOBOLINK.

the Bobolink without going into ecstasies. To say the least, he is the finest bird of our fields and meadows. See him mount that stake by the road-side! Every feather of his jet-black front is partially raised, the elegant creamy-white patch on the back of the head and neck is elevated into a crest; his wings and scapulars, so finely marked with white,

are partially extended; and as he pours forth his marvelous song, he waltzes gracefully to his own music, turning slowly around, so that the beholder may have a fair view of all sides. Now he launches into the air, and—half hovering—half flying—his song becomes even more resonant and penetrating; the loud, rich, liquid notes of his prolonged and varied warble causing the air to vibrate over many acres of the open field. The first tinkling tones are like those of a fine musical box rapidly struck, then come the longer drawn notes as of a rich viol or violin, and finally the sweet liquid, limpid, gurgling sounds as of an exquisite bell-toned piano lightly and skillfully touched. These several different strains, variously modulated, are uttered with a rapid, gushing volubility, which to an untrained ear might sound like the performance of a whole chorus of songsters. As the strain ceases, he drops down most gracefully with elevated wings into the clover, or, grasping the elastic culms of the taller grasses, swings proudly on his tiny perch. Each individual adopts his own territory and adheres to it, compelling his intruding neighbor to retire to his own side of the road or fence, and then returning to his own domain with the air of independence and authority. Here he keeps up his proud antics and charming melody some week or ten days before the female arrives. Only 7.50 long, and very nearly the colors and marking of a Sparrow—the lighter parts being simply a little more yellowish—you would never suspect her relation to such a gay consort. He recognizes her at once, however, and begins his ardent demonstrations. He sings and waltzes to her, hovers in front of her, fairly rending his throat in the ardor of his musical performance; and when she in her coyness, real or feigned, flees from him, he pursues her closely, and they dash in and out of bushes, trees, and fences with the most perilous speed.

More than once he slackens the chase for a few minutes, alighting and throwing in a few of his finest musical flourishes, and again renews it as ardently as ever, till at length he completely wins the object of his passion. Now they are seen together for a short time, and then the modest female retires among the clover and the taller grasses of the luxuriant meadow; and, scooping out a rather deep cavity in the ground, arranges a frail, loose nest of dried grasses, and lays her 5 eggs—averaging about $.90 \times .67$, white tinged with brown, spotted, blotched, and clouded with several shades of brown, and also a neutral shade of brownish-lilac. She adheres most closely to her nest. In walking across the field you may almost step on her before she will leave her treasures. Then flying only a few feet, she is instantly out of sight again; and unless you are a ready observer, or have some knowledge of birds and nests, you will be puzzled to know what you have found. As the Bobolink raises but one brood, and in the thick grass, some time before the hay is cut, its nest is but seldom seen by the farmer.

During the whole period of incubation the male is one of the happiest of birds. Without any perceptible sense of care, or of any misgiving whatever, he keeps up his gay performances of waltzing, flight, and song, with but little intermission, his beautiful figure adding greatly to the charms of the summer landscape, and his far-reaching melody harmonizing grandly with the joyousness of the season, and ever cheering the husbandman in his long hours of toil.

If the Bay-winged Sparrow is "the poet of the plain, unadorned pastures," the Bobolink is the poet of the luxuriant blooming meadows, announcing the beauty and the promise of the fruit-blossoms, and hymning the bright hues and the fragrance of the clover. It is the utterance of all the youth and joy of spring—of an unbounded hilarity.

In due time the young appear, a thrifty family, all clad in the plain but beautiful habit of the female, having a great deal of yellow, almost of bright yellow, on the under parts. When they leave the nest the parents show the greatest solicitude for them, flitting about in the most excited manner, and chipping loudly when their domain is intruded upon.

The nest of the Bobolink being so well hid away, and in parts little infested by enemies, it would seem that the species must sustain but a small loss during the breeding season.

These birds have their casualties, however. Walking once over a meadow along a little stream, I saw a young Bobolink fluttering over the edge of the water; and going up to it, saw something like a good sized stone just under it, which I imagined had in some way fastened down the bird so that it could not get away. Taking hold of the supposed stone and lifting it out of the water to free the bird, my friend accompanying me called out, "*a turtle!*" Sure enough! a large turtle had been holding the bird by the foot, but relinquished it on my interference. I do not know which was the quickest, I to let go the turtle, or the bird to fly away to the woods beyond.

Perhaps the bird, thinking this reptile a stone, had lit on it to drink, and had thus been entrapped by the treacherous object.

About the 20th of August these birds are gathered in flocks preparatory to migration. By this time the old males have laid aside the gay livery of the breeding season, and appear as plain and sparrow-like as the rest of the family. Imagine the chagrin and disappointment of European bird fanciers, in the early history of our country, who, having captured Bobolink in all the glory of the breeding season,

beheld him turn brown and spotted as a Sparrow and become voiceless ere they reached the end of their long voyage homeward! Nor does this bird ever resume his bright colors while caged. Exceedingly perplexing, too, was this change of plumage to the first students of American ornithology, who saw the males migrate in immense numbers to the north in spring, but saw none return to the south in autumn.

As soon as the Bobolinks begin to flock for their very leisurely fall migration, their whole manner is entirely changed. Who would imagine those immense flocks of plain birds, flying high, and in the swift undulating manner of the Goldfinch, over the marshes about Niagara River in August, to be the same species which he saw enlivening the meadows the spring before. That plain and subdued note which it repeats quite leisurely—*quait, quait, quait*—could give no clue to the voice of the same bird a few weeks earlier. But fire into the flock as they alight among the weeds and grasses after the manner of Snowbirds in winter, and like them, feed on seeds instead of insects, and you will find them to be veritable Bobolinks in excellent condition, and not at all of mean appearance, clad in their finely-marked suits of greenish-yellow and brown. These autumnal migrations continue through the day and the night, and pretty much throughout the month of August along Niagara River and along the shores of our Great Lakes in its vicinity. In the day-time even, one often hears the familiar migratory note above given, without being able to see the birds. On looking carefully, however, one can see them flying very high, seeming scarcely more than dark specks against the sky.

As these birds move southward, they receive different names according to their habits of diet. In Eastern

Pennsylvania, where they feed on the seeds of the reeds along the rivers, they are called Reed-birds, and in the south, where they feed on the rice, they are called Rice-birds.

Wintering beyond our boundaries, this bird enters the Eastern United States in large numbers, and reaching the Middle States about the first of May, breeds from thence northward to the Saskatchewan, and west to the Rocky Mountains. To the eastward, Mr. Smith reports it as breeding abundantly in Maine; Mr. Chamberlain gives it as a common summer resident in New Brunswick, particularly in the valley of the St. John River, and I found it plentiful last June in the Annapolis Valley, Nova Scotia, but did not see it elsewhere in the Province. Mr. Maynard gives its summer habitat between 38° and 48°. Arriving in Western New York during the first week in May, it reaches Maine about the middle of that month, and New Brunswick about the last.

On account of its short, thick bill, this bird was once called a Bunting, but its general structure places it among the Marsh Blackbirds or American Starlings; and as its white markings are similar to those of a Skunk, it has also been called the Skunk Blackbird.

THE YELLOW-WINGED SPARROW.

Perched on the fence by the roadside, in a neighborhood called Pine Hill, is the Yellow-winged Sparrow (*Coturniculus passerinus*). It is not at all common here, and seems confined to certain dry or sandy fields. Some 5.00 long, with wings much rounded and tail-feathers narrow and pointed, the plumage above is dark brown, almost black, edged with buff; head of the former color, with clear median line of the center; this bird is distinguishable from all other Sparrows

of its size in this locality, by its clear buff breast and the bright yellow on the edge or shoulder of the wings. It has also a small line of the last mentioned color from the base of the bill over the eye. On the whole, it is a very light colored Sparrow.

The fence is a rather high perch for this bird. It is generally seen on the ground or swinging on a spear of grass. From some such lowly position it utters its humble song, which is a faint but prolonged squeak, so much resembling the shrilling of certain grasshoppers that an ordinary ear would scarcely detect the difference. On listening closely, however, and having identified the song, one will discover that it is generally precluded and ended with a faint warble. Unpretending as this song is, the singer is nevertheless ambitious; for on hearing another of its species performing near by, it will fly toward it, and, diving into the grass, soon put it to silence.

The nest, which is on the ground, is built of dried grasses and lined with hair, and resembles those of the Ground-building Sparrows in general. The five eggs, some $.76 \times .60$ —large for the size of the bird—are pure white, specked and spotted with reddish-brown, mostly about the large end. They are laid early in June, the bird arriving in May. It probably leaves in September for the south. As a resident of Eastern North America, it is a southerly species, going scarcely beyond the United States; indeed, becoming rare already in the Northern States, while it is abundant to the south. Its food is that of its kind in general—insects and seeds.

Henslow's Sparrow (*Coturniculus henslowi*) is a closely allied species. "Resembling the last; smaller; more yellowish above, and with sharp maxillary, pectoral and lateral black streaks below; tail longer, reaching beyond the feet;

bill stout." (Coues). Habitat: Eastern United States; local, not common.

On a bright morning, on the 8th of May, I am on the shore of Lake Ontario, at the mouth of Johnson's Creek. The warm spring sun causes a soft white mist to rise from the whole surface of the lake, giving this grand sheet of water a most magnificent appearance—like that of burnished silver. From some distance out I can hear the clangor of the voices of immense numbers of Loons, or Great Northern Divers. The air is very salubrious, and being in good health, I am conscious of an unutterable joy in the contemplation of nature. Every breath is a soul-stimulus, and physical existence is blissful. But in such moments it is difficult to distinguish between that consciousness which is of the soul, and that which is of the body, so intimately do these two sources of the individual sense mix and blend together; and even the material forms around us have a spiritual ideal with which the mind may hold communion.

THE AMERICAN SWAN.

In the midst of my reverie my attention is arrested by the remains of a Swan (*Cygnus americanus*), which have floated upon the shore. Tufts of the fine plumage are still adhering, while many parts of the skeleton are entirely denuded by the effects of time and water. I pluck a handful of the snowy feathers from the disfigured form of this wonderful bird, which, by some means unknown, has perished in the course of its long migration. As I examine them I am reminded how all warm-blooded animals require some covering for the retention of animal heat. The ordinary mammal has a coat of hair, suited to climate, season, and the peculiar conditions of its habitat. The human race may

choose its own clothing according to location and circumstances. Birds are clad with feathers, an integument altogether peculiar to them as a class. Concerning these feathers, constituting what we call plumage, Paley, in his great work on Natural Theology, has well said: "The covering of birds cannot escape the most vulgar observation. Its lightness, its smoothness, its warmth—the disposition of the feathers, all inclined backward, the down about their stem, the overlapping of their tips, their different configuration in different parts, not to mention the variety of their colors, constitute a vestment for the body, so beautiful, and so appropriate to the life which the animal is to lead, that, I think, we should have had no conception of anything equally perfect, if we had never seen it, or can now imagine anything more so." Feathers are varied in adaptation to the different parts of the bird. There are the ordinary feathers for covering called "clothing feathers," then others particularly modified for special uses—those over the opening of the ear are very light and open, and are called "auriculars;" those covering the junction of the wing with the body are called "scapulars;" those lying in several rows at the base of the quills on the outside of the wing, "coverts;" the large quill-feathers of the wing are called "*remiges*," or "rowing feathers;" of these again, the larger ones, arising from the hand bones, are called "primaries;" those on the lower or distal end of the ulna, or arm-bone, "secondaries;" those from the upper or proximal part of the same bone, "tertiaries," while the large steering-feathers of the tail are called "rectrices." Indeed, on every part of the body the feathers are peculiarly modified according to their location, and yet every feather is constructed essentially on the same plan. There is, first, the quill, entering

the skin, and supporting the main part. It is of a tough, horny material, and cylindrical in form, thus combining strength and lightness; for in no form is a given amount of matter so strong to support a weight or a strain as in that of a tube or cylinder; and, of course, that is also the form most favorable to levity. Next comes the shaft supporting the vanes. This is somewhat four-sided, to accommodate the vanes, and gradually diminishes toward the extremity. It is usually bent, thus rendering the feather much stronger and more convenient for its ordinary uses; and it is also made more firm by a light pith. The flat barbs, constituting the vane, join each other at their broad sides, thus striking the air edgewise, and so opposing the utmost resistance, just as a plank will sustain a greater weight when set on edge than when lying flat. These barbs are also broadest where they join the shaft, and taper to a point at the outer edge of the vane. The broad sides of these barbs are supplied with *barbules*, little hooks, so arranged as to hook or latch into each other, and so form the barbs of the vane into a continuous and firm sheet. At the base of the vane is generally more or less down, according to the nature of the bird, certain swimming birds, such as Ducks and Geese, being noted for their down. Some of the feathers of such species are down throughout, and are called down-feathers; while all birds have more or less feathers simply in the form of hairs. These last are particularly troublesome in dressing the common fowl, and are most conveniently cleaned by singeing. Again, the feathers of certain birds have a peculiar style of structure. Those of the Grebe are very open and loose, and of a glossy finish, giving them somewhat the appearance of an elegant kind of fur. "In the Owls the plumage is loose and soft; filaments from the barbules extend upon the outer surface of

the vane, and one edge of the primaries is serrated; so that, while they are debarred from so swift a flight as the Hawk, they are enabled, by the same mechanism, to wing their way without noise, and steal unheard upon their prey." (Owen.) In the long pinions of the Hawk the vanes are joined together with a remarkable firmness. Who can explain the peculiarity of that structure, which causes the inimitable lustre on certain parts of several kinds of birds? Thus, as the above named author says, "every feather is a mechanical wonder." No less remarkable is its history from its first appearance in the matrix till it reaches maturity. So perplexing is each stage of its development, that to read an account of it by the most lucid anatomist requires as close attention as the solution of an intricate problem in mathematics. And can anything exceed the varied beauty and brilliancy of the plumage of certain members of the feathered tribes? What is there in all the bright hues of nature which can equal the metallic tints on certain parts of the Humming Birds of the New World, or of the Sun Birds of both the Old World and the New? ●

The partly denuded skeleton of this Swan also reminds me of the peculiar and varied osteology of the birds. A bird's skeleton is a true indication of the leading peculiarities of its structure and functions in this class of vertebrates. As the bird's position, whether on the ground, on the water, or in the air, is nearly horizontal, the trunk of the body is made firm by a consolidation of a great portion of the backbone and ribs into a continued bony plane, and by the ankylosis, or joining together, of nearly all the dorsal vertebræ; and then it is well supported by the thigh bones being in a horizontal position, and thus balancing it; and by the long toes radiating in various directions. As the bird's neck must serve the purpose of an arm, and the bill that of

a hand, the former is very long, and flexible in various directions, reaching its greatest length in the *Cygnus*, or Swan genus, and the latter is variously and most skillfully modeled according to the habit of the bird, but always having cutting edges of a horny substance. Flight, as the principal characteristic of the class, is well anticipated by the great extent and peculiar form of the breast-bone or *sternum*, to which so many of the muscles of flight are attached, which has its surface augmented by a broad keel, and of which the ossification is more or less complete, according to the powers of flight possessed by the bird. Notwithstanding the great pressure of the wings of the flying bird upon the shoulders, these last are kept a proper distance apart by a system of bones formed into a sort of double arch, well braced forward and backward. The ribs again are remarkably strengthened by a line of flat, bony processes, extending from one to the other, like purlines joined into the rafters of a building. All the bones are especially laminated and firm, and at the same time contain, for the most part, air cavities, to secure their greater levity.

Nor is the muscular system any less remarkable in its adaptation to the peculiar functions of the bird; some of the muscles, extending from the trunk of the body to the tips of the toes, being so arranged that the bird clings to its perch without any voluntary effort during its unconscious hours of sleep, and may thus support itself even on one foot. "In birds of flight the mechanical disposition of the muscular system is admirably adapted to the aerial locomotion of this class; the principal masses being collected below the center of gravity, beneath the sternum, beneath the pelvis, and upon the thighs, they act like the ballast of a vessel, and assist in maintaining the steadiness of the body during flight; while at the same time the extremities require only

long, thin tendons for the communication of the muscular influence to them, and are thereby rendered light and slender." (Owen.) Is there anything in all this arrangement of bone and muscle which indicates intelligent design? Is there any thought back of it all? Or is it simply the result of blind forces residing in matter?

Over the wide world the Swan is the most graceful and majestic bird of the waters. Strongly resembling the Goose, it is differentiated by its greater elegance, which comes in part from its long, slender and graceful neck, and in part from its large and elaborate wings, as well as from its more dignified proportions and bearing in general. Its bill is noticeably larger than that of the Goose, in proportion to its head, and the base of it extends to the eye. The fabled song of the Swan as death approaches, though decidedly beautiful, has no foundation in fact. While it has some very boisterous notes, and a peculiar folding of the wind-pipe and connection of it with the breast-bone and merry thought, for the purpose of securing these stentorious effects, its ordinary reticence, so strongly contrasting with the "noisy gabbling of Geese and Duck," adds greatly to its wonted dignity. Indeed, the structure of its vocal organs is in no wise favorable to any musical capacity.

To see this pure, snow-white creature in all the ease, elegance and dignity of his wild and retired haunts is the privilege of but few; but he may be seen domesticated, and thus seeming perfectly at home on the glassy ponds of our public or even private parks. His great wings, so gracefully ruffled and partly elevated, make him look almost ethereal as he floats along with the slow and easy strokes of his large, black feet, and they also serve as a sort of sail to catch the passing breeze. Frequently one foot is held up out of the water and spread apart, as if it, too, were used to catch

the wind. What can equal the gracefulness of that long, slender, curving neck, as the head moves slowly in every conceivable direction! Every movement of a Swan is particularly slow and stately. It is a living miniature of a ship. But that peculiar motion with which, having dipped his head in the water, he throws a shower of large drops, like so many pearls, over his ruffled and snow-white plumage, affords the supreme moment when his beauty culminates. Such scenes give one a conception of the sweet content God has designed for all His creatures in the mere consciousness of existence. Those poets sing best of human life who, passing by its feverish excitements and undue ambitions, find a chief good in the quiet, virtuous and sweet sense of simple being. That was a true philosopher who prized the comfort of sunshine above the highest gifts of kings.

We have two species of Swan on this continent—the Whistling or American Swan, and the Trumpeter. The former (*Cygnus americanus*), some 53 inches long and about 84 in extent of wings, is occasionally seen in flocks passing over our Great Lakes, or along the Niagara River, in their times of migration. On St. Clair Flats they are sometimes seen in great numbers. They fly high and in lines and angles, after the manner of Wild Geese, except that they are generally silent, and have a shorter and more graceful stroke of the wings. Very inspiring to the love of the beautiful are their large snow-white forms, with outstretched neck and black bill, as they glide along the clear ether of a bright morning in early spring or late autumn, their lines, curves, and angles being formed with mathematical precision. Many of them spend the winter on the Chesapeake and Delaware rivers, where they are captured in large numbers for the market. It is also said to be abundant along the Pacific

Coast in winter. In New England it is rare, and it is not abundant in the region of the Mississippi. The arctic regions are its breeding ground. It breeds commonly in the marshes along the Yukon River, especially in the great marshes at its mouth. The eggs, from 2-5, "nearly ellipsoidal," some 4.00×2.00 , with a rather rough shell, are white or dirty-white, and are laid in May, "usually in a tussock quite surrounded with water."

The Trumpeter Swan (*Cygnus buccinator*) differs from the former in its greater size, being some 68 inches in length, by its longer and wholly black bill, and more basilar nostrils, by its 24 tail feathers (*C. americanus* has a yellow spot on the bill and only 20 tail feathers), and by its harsher voice. Reaching the gulf coast in winter, the Trumpeter seems to range along the great Mississippi Valley, breeding from Iowa and Dakota to the arctics, its breeding habits being similar to those of its American congener. It is but a straggler on the Atlantic Coast, and is not numerous southward on the Pacific.

The young of Swans are at first gray, and passing through various shades of reddish do not become pure white until about 5 or 6 years old; and it takes about as many years for them to reach their full size, the young scarcely exceeding one-third of that of the mature bird at the end of the first year.

Australia has a Black Swan, and South America one with a black head and neck.

THE LOON.

About the middle of the day, when the mist on the lake has somewhat cleared away, I discern some half-dozen dark spots, several miles out; and turning the glass upon them, I discover them to be Loons, or Great Northern

Divers (*Colymbus torquatus*). How finely they swim, stretching their large, black feet out behind them, even above the water, sometimes, the wavelets stirring at their sides and in their wake, being a miniature of those formed by a sailing craft. Now they are moving in line, one after the other; and again the line is broken by the sudden diving of one or more; or for a time they all disappear in the same manner. Then rising again, one after another, they shake their heads and look about them in every direction, as if keeping up the utmost vigilance; or one flaps his wings, and thus rising out of the water, and patting it with his feet as if running on its surface for some distance, drops into it again, cutting the glassy surface into a foam with his snowy breast. If one would study birds without disturbing them, and know how they behave when they are perfectly at home, one must view them thus in the distance, with the aid of a good glass. The first impulse on a sight like this is to board one's boat and row toward the flock for a shot; but that would be about useless in the case of the Loon, for he dives at the flash of the gun ere shot or bullet can reach him. To shoot a Loon is possible, but it is one of the rarest feats in marksmanship. The name—Great Northern Diver—is most appropriate to him.

The summer haunts of this bird are in the north, where, on lakes and streams, his large, flat body, his long, slender-pointed black bill, his large head and long, thick neck of jet-black, with hues of violet and green and patches streaked with white, his jet-black upper parts elegantly spotted with white, and his snow-white breast—are among the most familiar objects. Of his great expertness in diving and swimming, for which his peculiar structure—especially the posterior position of his great webbed feet and his sharply compressed legs—so well

adapts him, he seems well aware; for he is in no hurry to fly as one approaches him on the water. Excepting the Grebe, no bird of our waters will allow one to come so near to him. Plunging out of sight in an instant, if one presses him too closely, and literally flying under the water, he will presently come up and shake the water out of his eyes many rods distant, swimming so deeply that his back is nearly under water; and, before one can get within gunshot, he plunges out of sight again. If he undertakes to rise out of the water, it seems to be with some difficulty. Striking the air vigorously with his powerful wings, and patting the water with his feet, he appears half-running and half-flying, for several rods, before mounting fully into the air, and if the wind be blowing he rises against it, thus "eking out the resisting power of his small wings;" but once elevated, he moves with immense momentum and velocity, with outstretched neck, and feet extended backward, after the manner of a huge Duck. To make up for the small area of his wing-surface, he beats the air with a rapidity that cannot be counted; and like other swimming birds with very small wings for their size, and like all diving birds whose wings are always reduced to a minimum, he can make no sudden turns, nor perform any aerial evolutions, nor alight suddenly and gracefully, but pitches into the water with a splash and foam. Nor does he generally need any of these facilities on wing. He may choose broad rivers, immense lakes, or even the ocean for his highway, and so have no obstructions in his course. Moreover, like other mortals, he cannot expect to have every advantage. If in structure and function he is the very ideal of dexterity in the water, he cannot expect to vie with the Swift in the regions of the air.

The name Loon, or Loom, is said to be of Lapland ori-

gin, and to have come from a word signifying *lame*, because the bird is unable to walk regularly. One caught in a seine, and brought to me in excellent condition, without any injury whatever, was wholly unable to rise from the ground, and could barely shuffle along a few feet, aiding itself with the shoulders of its wings. Its position in standing is nearly upright, after the manner of the Grebes; otherwise it cannot maintain the center of gravity on account of the posterior location of its legs. If perchance the Loon alights on land, away from the water, it cannot rise again. Every now and then during their migrations, one is found in this situation, and may then be picked up and carried off without any difficulty whatever.

As one might expect under these circumstances, the Loon's nest, which is a rude structure of rushes, is hard by the water, on an island, or on the shore of the main land, generally on the edge of a little island in a lake. The eggs, 2 or 3, some 3.25×2.15 , long and pointed, are brown or greenish-brown, sparsely spotted all over with dark brown.

The Loon breeds on St. Clair Flats in considerable numbers, the nest being built up from the bottom, of rushes and sedges, extending some eight or ten inches above the surface, and containing a dry depression to receive the eggs. Very possibly these nests are all deserted muskrat-houses. I could not fully determine.

The notes of this bird, being most frequent before a storm, are remarkable. Beginning on the fifth note of the scale, the voice slides through the eighth to the third of the scale above, in loud, clear, sonorous tones, which, on a dismal evening before a thunder storm, the lightning already playing along the inky sky, are anything but musical. He has also another rather soft and pleasing utterance, sounding like *who-who-who-who*, the syllables being so rapidly pronounced

as to sound almost like a shake of the voice—a sort of weird laughter.

Though generally dispersed over the United States in winter, the Great Northern Diver breeds, for the most part, beyond our limits, except in mountainous regions, rearing their precocious young, even up to 70°.

The length of this species is $2\frac{1}{2}$ –3 feet. Its food is mostly small fishes.

The Red-throated Diver (*Colymbus septentrionalis*), with habits and habitat similar to the former, is much smaller, 26 inches long and 43 in extent of wing; and it differs noticeably in color. It is “blackish; below, white, dark along the sides and on the vent and crissum; most of the head and fore-neck, bluish-gray, the throat with a large *chestnut* patch, hind neck sharply streaked with white on a blackish ground; bill black. The young have not these marks on the head and neck, but a profusion of small, sharp, circular or oval white spots on the back.”

This species is said to be abundant on the Bay of Fundy. Another species called the Black-throated Diver is found to the northwest of our continent.

These Loons are also the Loons of the Old World, the birds having a circumpolar distribution. They are closely allied to the Grebes, differing from them, as to structure, principally in their completely webbed feet.

The peculiarities of the skeleton of a Loon, including the greatly prolonged breast-bone, the long, narrow pelvic bone with its elevated ridge, to receive the great muscles of the leg used in swimming, and the greatly prolonged process at the knee-joint, to strengthen the leg as the bird kicks up toward the surface of the water in the act of diving, deserve the special attention of the ornithologist and anatomist.

CHAPTER XIV.

THE TENTH AND ELEVENTH OF MAY.

I AM in the forest on a beautiful morning, the 10th of May; and never in the round year are the charms of our woodland scenery greater than at this very hour. The leaves are already well unfolded, for the spring is early; and the many wild flowers, peculiar to the time of year in this locality, are in full bloom. Liverworts, spring-beauties and marsh-marigolds are past their prime, indeed; but the cresses, the toothworts, the fumitories, the addertongues, the violets, and above all the trillium, are now in the very height of their glory; while the mitreworts and the many varieties of Solomon's-seal are just beginning to display their delicate beauties. The whole woods is one immense flower-garden. Oh, the fragrance of this delightful morning air! Involuntarily one takes long, deep breaths, as if the very act of respiration were a luxury.

THE WOOD THRUSH.

But most delightful of all, as the sun leaps above the horizon, is the mingled chorus of the birds. The Wood Thrush (*Turdus mustelinus*) arrived some time during the night, and is giving us his first song. To me it is an event of the season. Nothing in all our bird melody equals it! Such is its sweetness and copious variety that I shall not attempt to render it in syllables. It must suffice to say that

the tones are flute-like, if indeed they can be compared to any instrument; a variety of brief tinkles, trills, triplets and warbles, on main chords, intermediates and chromatics, following each other in close but rather slow succession, in every possible key, cadence and inflection, with a peculiar shake on a low key every now and then thrown in; the whole suggesting the idea of a solemn but happy and tender train of meditation; the bird sings as if in a delightful reverie. From the time of his arrival till late in June, or even in July, his peculiar melody may be heard at almost any time of day, but especially early in the morning and late in the evening. Never shall I forget how, once at the dawn of day, as I lay in my hammock high up under the thick shade of two great forest trees, the notes of the Wood Thrush were the first to break the stillness of the receding night. Faintly, but oh! how sweetly, they broke upon the air in the tree-top just above me. Louder and louder were the liquid strains, until the silent isles of the thick forest echoed to their delightful cadences, and all the songsters in the vicinity woke up and gave forth their united response. Nothing is more characteristic of our beautiful forests, at the close of day, than the melody of this great woodland artist—this Beethoven among birds.

Not peculiar to the streams and wet places merely, as implied by both Wilson and Audubon, but exceedingly common as a summer resident throughout the woods, the Wood Thrush builds his nest in this locality late in May or early in June, in the crotch of a sappling, or on the horizontal limb of a large tree, anywhere from 7 to 15 feet from the ground. The structure, strongly resembling that of the Robin, consists outwardly of dried leaves, coarse weed-stalks, grasses, rootlets, etc., plastered together with mud, and lined with rootlets for the most part, the lining often

being quite scanty. The eggs, 3 or 4, some $1.00 \times .75$, in form and color are like those of the Robin.

When the nest of this species is disturbed or even approached, it has an animated twitter, almost as characteristic as its song, also a soft *chuck*. I do not find this bird particularly shy, as compared with other birds of the woods.

Like other Thrushes, it is often on the ground, not infrequently utters its song from a log or stump, and seldom alights above the lower story of the woods. Berries and insects constitute its fare. Its flight is regular, and not very rapid.

About 8 inches long, the upper parts are bright brown, reddish on the head, dusky on the rump and tail, eye-lids white, ear-patches dark brown and white striped, underparts white, breast creamy, the dark-brown arrow-shaped spots being quite large and running in chains. The males and females are alike, after the manner of the Thrushes.

Migrating to New England early in May, very rare in southwestern Maine, it extends further north into Canada West. I found it common about Manitoulin Island, and heard its song in the Lacloche Mountains. Early in autumn it leaves us for its winter home in Central America. Audubon reported a few on the gulf coast in winter, but Mr. Maynard did not find it in Florida.

WILSON'S THRUSH.

From a thicket of undergrowth near by there comes a loud querulous note, which may be spelled as *chree-u*. I recognize it at once as the alarm note of Wilson's Thrush (*Turdus fuscescens*), a very common summer resident of this locality, arriving early in May and leaving early in September. There, he has alighted on a large stump within two rods of me, and in full view. Some 7.00 long, or more, he is rather

slender, reddish-brown above, pure white underneath, the throat and upper breast dark cream, streaked with small, obscure, arrow-shaped brown spots. His general lightness of color, especially his obscure spots on the breast, always differentiates him from all other Thrushes. About the last of May or early in June, when nidification begins, he becomes a most delightful songster. Then, if you would hear him to the best advantage, go to some low ground or swamp—localities in which these birds are most numerous—between sunset and dark, when sky and clouds put on their most gorgeous hues, and all nature is sinking into silence. The mere notes of the song are very simple, and, to my ear, sound something like the syllables, *whree-u, whree-u, whree-u, whree-u*, uttered in a somewhat slow and strictly formal manner, and often so softly that you imagine the bird, which is close by, to be quite a distance off; but the tones may have a marvelous vibration, sweet, pathetic, and grand beyond comparison, as “the sounding isles of the dim woods” return the softened echoes. The tones, taken singly, I think are the sweetest I ever heard, and can be compared to nothing else which ever falls upon the ear. Each tone is one of many keys, all in sweet attune, a chord of many different musical threads, vibrating sweetly, and causing the atmosphere to respond as if it were itself entranced.

As is the case with other birds, several in the same vicinity, will answer each other, one delivering his strain in a little higher tone than another, and again falling a little below him, the effect of which is very fine to a musical ear.

Tranquility is the very essence and expression of this delightful song. No sound in the whole domain of nature could more perfectly compose the mind. Pitch your tent where this bird is, and let him put you to sleep at night and wake you up in the morning.

This species is often called the "Veery," probably from some fancied resemblance of the word to the notes of his song. That resemblance to my ear, however, is the slightest possible. The name is simply a degrading epithet.

In accordance with its terrestrial habits in general, *Turdus fuscescens* builds its nest *on* or *near* the ground, often on a little bunch of dried brush and leaves, or on the side of a knoll, generally where a small opening in the tall trees lets in the genial rays of the sun. It is rather a rude structure, sometimes frail, sometimes bulky, the foundation being of dried and skeleton leaves mixed with straw, weed-stalks, sticks, or coarse shreds of bark from the wild grape-vine; the lining being of skeleton leaves and very fine rootlets, perhaps a few pine-needles or dried grasses. The structure is quite unique, and from its location can scarcely be mistaken. The eggs, generally 4, some $.80 \times .60$, are light bluish-green, and decidedly pretty.

Though generally a shy and sly bird, it will sometimes become quite confidential. Strolling through the woods some time ago I happened on a nest of callow young. The mother sat closely. Almost within arm's reach of the nest, I watched her for several minutes, she looking at me also with an indescribable expression in her large brown eyes. As she left the nest, finally, I noticed that, being six inches or so from the ground, and rather poorly supported, it was very much tilted on one side, thus endangering the safety of the young. I righted it up, shoved a handful of dried leaves under it to make it firm, and passed on. A few hours later I returned, happening to pass the very same spot, when lo! the bird had become so tame, and looked at me seemingly with such an expression of gratitude and confidence, that the nearest proximity to the nest did not appear to disturb her.

Wintering in Florida and the gulf states, Wilson's Thrush breeds from Southern New England and the Middle States to Hudson's Bay, and westward to the Rocky Mountains. It is abundant in Western New York in summer. I did not find it common in Nova Scotia.

THE GOLDEN-CROWNED ACCENTOR.

Ke-cheé, ke-cheé, ke-cheé, ke-cheé, ke-chee, comes the familiar ditty of the Golden-crowned Accentor (*Seiurus aurocapillus*) for the first time in the year. The notes begin so softly that you might imagine the bird to be some distance away, but as they continue louder and louder, the last one, which is quite loud and shrill, discovers the ventriloquist to be near by. Perched on a lower limb, near the trunk of the tree, he sits motionless as a statue, except when he throws his head up to utter his notes. Then he shakes himself from bill to tail, and by the time he reaches the last note, seems to be exercising every muscle.

Occasionally between his chants he steps back and forth on the limb and jerks his tail after the manner of his near relative, the Water Thrush. The general effect of his performance is greatly enhanced by the echo so peculiar to the forest when in full foliage; and throughout the summer it is one of the characteristic sounds of our charming woodlands, always to be associated with their coolness and fragrance.

Excepting the sharp metallic *chip*, which he gives as he walks in his pretty lark-like manner on the ground in time of nidification, the above describes what was formerly supposed to be the full extent of his musical capacity; but Mr. Burroughs discovered, some years since, that he has a fine warble. He says: "Mounting by easy flights to the top of the tallest tree, he launches into the air with a sort

of suspended, hovering flight, like certain of the Finches, and bursts into a perfect ecstasy of song—clear, ringing, copious, rivaling the Goldfinches in vivacity, and the Linnets in melody. This strain is one of the rarest bits of bird melody to be heard, and is oftenest indulged in late in the afternoon or after sundown." Since Mr. B.'s discovery others have identified this extra song. I hear it to fine advantage in the night when the bird begins with its ordinary and well-known chant, and ends in a prolonged and beautiful warble, the effect of which, on the stillness of night in the forest, is peculiarly pleasing.

Some 6.00–6.50 long, greenish-olive above, with a yellow crown margined with black, white underneath, the breast and sides streaked with large arrow-shaped spots of black, Golden-crown has the marking of the Thrushes, among which he was formerly classed; but in structure he is a Warbler; in size he is about half-way between these two great families; in manner, especially when on the ground, he resembles the Wagtails. He is a bird of the ground, often busy among the rustling leaves scratching for food, and he is a dainty walker, seldom leaving the ground, except for some musical performance.

In accordance with this general habit, his nest, found in almost any part of the woods or swamp, is on the ground—a peculiar structure, roofed over, and having an entrance on the side, bearing such a striking resemblance in miniature to the old-fashioned out-door oven, that the builder has been christened the "Oven-bird." Frequently the nest is truly "a thing of beauty." Composed of dried leaves and grasses, sometimes intermixed with shreds of bark and fine twigs, or ornamented with mosses, thickly arched with skeleton-leaves, or feathery tops of the finer grasses—it looks almost ethereal. Not infrequently, however, the nest is

plainer, containing a moderate amount of material, and that of the coarser sort, slightly arched with the plain culms of dried grasses, or with pine needles. The eggs, 4 or 5, about $.78 \times .60$, and therefore unusually roundish, are white as porcelain, finely specked and spotted with red, brown and lilac, mostly around the larger end, often in a wreath, and are real objects of beauty in the nest so smoothly lined with skeleton-leaves and horse-hairs. They resemble those of the Warblers, too, and not the strongly-marked, bluish-green eggs of the Thrushes.

Wintering in the extreme Southern States, Mexico, Central America, and the West India Islands, its breeding habitat extends even to the arctic regions, whence it returns in the early autumn.

YELLOW-BACKED BLUE WARBLER.

Next thing to shooting bumble-bees is the bringing down our smaller Warblers from the tallest tree-tops. So I feel, as from the highest branches of a great elm, I pick out a Yellow-backed Blue Warbler (*Parula americana*), the smallest of the family. Only 4.50 long, the upper parts are a delicate blue, slightly tinged with ash, with a bronze-yellow patch on the back; throat and breast yellow, with a collar of black and bronze, often more or less mixed, across the upper breast; under parts, wing-coverts, and spots in outer tail-feathers, white. Though it is by no means brilliant, I admire it for its plain and modest beauty. There is something retired and elevated, too, in its manner. Its path is, for the most part, in the very tops of the beeches and maples on uplands and hills. Seldom, indeed, is its nest less than 20 feet from the ground. Often it is much higher. Hopping or flitting from point to point, hanging by the feet, or peering quaintly among the leaves, all its

movements are most sprightly and graceful. Its nest is built wholly of what appears to be a light-green hanging moss, but it is in reality a lichen (*usnea*), common to many trees of the north. The form is sometimes globular, with an entrance on the side, sometimes open at the top, and appearing like a common bunch of the material, in its native position on the tree. It is unlike the nest of any other bird, and exceedingly difficult to find. The eggs, often not more than 3, and laid early in June, are some $.65 \times .50$, white, specked and spotted with reddish-brown and lilac, particularly around the large end. *Parula's* song is by no means as interesting as its nest. Though chiming in well with the many voices of spring, considered apart, it is scarcely more than a prolonged and pleasing squeak.

Breeding in the Southern and Middle States, *Parula americana* becomes more common in New England, and extends to Nova Scotia, and west to the Missouri. Southern Florida is its northernmost abode in winter.

THE KINGBIRD.

As I return home across the fields I observe a pair of Kingbirds (*Tyrannus carolinensis*) perched on a fence and uttering a series of notes, *tsip-tsip-tsip-tseep-tseep*, *tsi-tsi-tsee*, *tsi-tsi-tsee*, *tsi-tsi*, *tsee-tsee*, the whole being so modulated as to sound more like a song than anything I ever heard from this bird before. Eight inches long, blackish-gray above, wings and tail nearly black, under parts and edge of the tail white, a flame-colored spot under the tips of the feathers on the crown, the male a little darker than the female—this bird is almost as well known as the Robin or Bluebird. Most noticeable of all are his pugnacious habits. Occupying some low perch in the garden or orchard, or alighted on the fence by the meadow, pasture or roadside, his big head

looking bigger than it really is, because of its erected feathers, his whole mood sullen and querulous, his sharp screeching note coughed out and accompanied by a jerk of the tail, he does not possess one single trait of amiability; but, like some ill-natured braggart, seems always on the watch for a chance to fight. Whether the passer-by be a Buzzard a Crow, or the tiniest Sparrow, at once he intercepts his track and insults him in the most wanton manner. Slow and tremulous as his flight seems to be, he keeps tolerably close chase with almost anything. Whether those saucy thrusts, as he lets himself down on the back of that soaring Red-tailed Hawk, are painful or not, they are certainly very annoying, as the vexed evolutions of the dignified bird clearly show. Again and again the little sauce-box dashes himself against him, while the Buzzard tips and veers, threatening his insignificant tormentor with beak and claw, and making off with as little show of disconcertion as possible. He scarcely rids himself of the nuisance, however, even at a great height in the air. All the smaller birds in the neighborhood bear with his attacks as a matter of course, and get out of his way with all speed. Arriving the first week in May, the orchard is his favorite resort. Here his note, sometimes uttered singly, often twice in succession, is one of the most familiar and constant sounds. Perched on some branch or part of the fence, after the manner of the Flycatchers in general, he waits for his insect prey, which he snaps up on the wing with a sharp click of the bill as he cuts short circles in the air, sometimes hovering beautifully to reconnoiter, or take his pick from a flock of gnats. Occasionally he may snap up a bee from the hive, but for this small trespass his extensive destruction of noxious insects abundantly compensates.

The Kingbird's nest is on some horizontal limb of a tree in the orchard or open field, not very far from the ground.

It is composed early in June of dried weeds, small sticks and roots, bits of moss, leaves, down, and especially wool, lined with fine rootlets and some horse-hair. The eggs, 4 or 5, averaging some $1.00 \times .75$, are creamy-white, spotted and blotched with brown and lilac in such a manner as to make them always distinguishable.

Late in August these birds may be seen in families, and by September they leave for the south, wintering in the most Southern States, and southward even to Peru, whence they return throughout North America, breeding in their entire range as far as 57° .

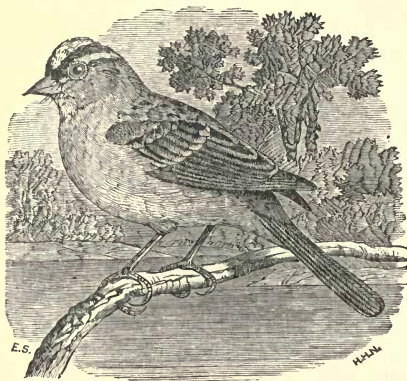
The Gray Kingbird (*Tyrannus dominicensis*) of Florida and the extreme Southern States is 9.00–9.50 long, with the tail slightly forked; brownish-slate or ash above, darker on the head, and auriculars dusky; white below, shading into ash on the breast and sides; under coverts and edgings of the dusky wings and tail, yellowish. Its habits are similar to those of the former, but it is more noisy. It is merely accidental in the north.

The elegant Swallow-tailed Flycatcher (*Milvulus forficatus*) of the southwest barely reaches the lower Mississippi.

THE WHITE-CROWNED SPARROW.

In the latter part of the afternoon of this same tenth of May, as I ride by a large orchard belonging to one of my parishioners, I am delighted with a whole chorus of White-crowned Sparrows (*Zonotrichia leucophrys*), making melody in the blooming branches. The song is quite peculiar, *wee-who-who-zee-zee-zee*, the first three notes in a clear whistle, and the last three in a sort of jew's-harp tone, the whole being decidedly pleasing, and not at all like that of the White-throat. Appearing already in the latter part of April, they are very common along the fences, hedges and

orchards in migration at this time of year; but they do not always sing. Sometimes a few will linger on the same spot, singing more or less for a number of days, but one does not often meet such a full chorus of them.



THE WHITE-CROWNED SPARROW.

This is one of the largest and certainly the most beautiful of all our Sparrows. Seven inches long; crown clear white, with jet-black on each side and white line over the eye; upper parts a beautiful ash and brown; wing-bars white; neck and under parts light ash, becoming white on the vent and light-brown on the flanks; bill and feet dark cinnamon. The male and female are alike. The White-crown has a habit of standing pretty well erect, with the feathers of the entire crown raised, thus looking exceedingly jaunty; while all his colors, of chaste, rich tints, finely harmonized, set him out to the best advantage.

Wintering in the Southern States, the White-crowned Sparrows go far north to breed, Newfoundland and Labra-

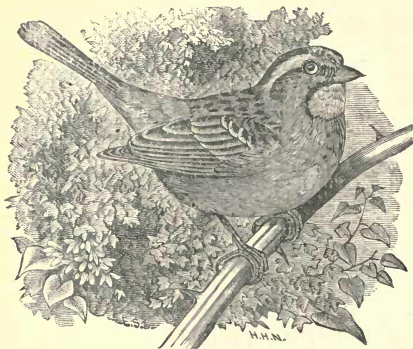
dor being the principal resorts to the eastward, while in the mountainous regions westward they breed as far south as Colorado. Fred. Boshart, however, the young ornithologist of Lowville, N. Y., found a nest July 7th, 1877, in Denmark, Lewis County, N. Y. In a very rough place of logs and windfalls, it was placed about five inches above ground, thus differing from its ordinary location. It contained one egg.

Audubon describes a nest found in Labrador, and in all respects representative, as follows: "The nest was placed in the moss, near the foot of a low fir, and was formed externally of beautiful dry green moss, matted in bunches like the coarse hair of some quadruped, internally of very fine dry grass, arranged with great neatness to the thickness of nearly half an inch, with a full lining of delicate fibrous roots of a rich transparent yellow. * * * The eggs, five in number, average $\frac{7}{8}$ of an inch in length, are proportionately broad, of a light sea-green color, mottled toward the larger end with brownish spots and blotches, a few spots of a lighter tint being dispersed over the whole." He found the nests numerous in that locality, as also did Dr. Coues. The former gives June as their breeding time. He also says: "The food of this species, while in Labrador, consists of small coleopterous insects, grass-seeds, and a variety of berries, as well as some minute shell-fish, for which they frequently search the margins of ponds or the sea-shore." By the first of October the White-crown begins to pass this point on its way south, and is quite common for several weeks.

THE WHITE-THROATED SPARROW.

As I continue my ride, passing a thicket near a large block of woods, I meet a company of some half-dozen White-throated Sparrows (*Zonotrichia albicollis*) leisurely

gathering food among the brush and bushes. They may be found here as a common migrant from the last week in April till after the middle of May, following thickets, brier patches, and swampy places; and again in September and



THE WHITE-THROATED SPARROW

October, or even later. Somewhat shy, slow, and dignified in their movements, uttering a soft and somewhat prolonged *tseep*, they are not very noticeable except to the ornithologist. In the autumn I have heard them utter a sharp *pimp*, sounding a little like the spirited alarm of the Robin. Seldom indeed do they favor us with their song as birds of passage. I have heard it, however, from some solitary male perched on a stub in a thicket on a beautiful May morning. In their breeding haunts, which are from Northern New England far to the northward, their very pleasing melody is quite common.

In Great Manitoulin Island and vicinity, where I found these birds abundant in the breeding season, it is one of the earliest, the commonest, and certainly the most impressive of bird-songs to be heard. Thoreau in the North Woods

of Maine, and Burroughs in the great forests north of Quebec, found this Sparrow in great numbers; and it is found equally common in New Brunswick and Nova Scotia. The notation of its song could be easily written on the musical staff. Beginning generally on the fifth note of the scale, after the first syllable, it ascends to the eighth or last note, and ends in four syllables more. After the first syllable of the song the bird will sometimes utter the second on the second or third note of the scale above, and then dropping back will render the remaining three syllables on the usual pitch for the ending. I have heard it begin on the last note of the scale, and after sounding two syllables, drop to the sixth interval for the remaining three syllables, thus giving a beautiful minor effect. If several are singing after the first-named or ordinary manner, they may each perform on a different key, one responding to the other from different dead trees or tall stubs in the neighborhood. The charm of the song is principally in the pathos of the tones, which resemble those of the song proper of the Chickadee, being an inimitably tender and vibrating or tremulous whistle. There are few bird-songs which are so affecting to an æsthetic nature as is this simple pastoral. The tenderest and most sympathetic ideas, with a tinge of melancholy, find their expression in these strongly characterized notes, which, as Thoreau says, "are as distinct to the ear as the passage of a spark of fire shot into the darkest of the forest would be to the eye." All such representations of this song, as "*pea-body, pe-a-body, pe-a-body,*" or, "*all day whittling, whittling, whittling,*" or, "*ah! te-te-te-te-te-te-te-te,*" are mere caricatures, furnishing at best but a rude suggestion of its plaintive, tender melodiousness.

To introduce this bird more fully, his length is 6.00; crown black, with line of white through the center; lines

over the eyes; bright yellow from the base of the bill to the eye, then white to the neck; upper parts, reddish-brown and blackish-brown, intermixed with streaks of whitish; wing-bars, white; cheeks, dark-ash; throat, white; under parts, whitish-ash; female and immature male, with the bright head-markings quite obscure. The male, in perfect plumage, is decidedly beautiful; by some he is regarded as the most beautiful of all the Sparrows.

The nest, on the ground, in bushy fields, is of dried grass, weeds and mosses, lined with rootlets or fine grasses. The eggs, 4 or 5, some $.85 \times .62$, are grayish-white, spotted and splashed with brown and paler markings. The White-throat winters throughout the Southern States.

THE BLACKBURNIAN WARBLER.

The most prominent physical feature just south of Lake Ontario is the Ridge, a graceful elevation of sandy soil supposed to have been once either the shore of the lake, or an immense sand-bar. The highway, which follows its greatest elevation, and is broad enough to admit several teams abreast, was once the grand thoroughfare from Buffalo to Albany. Now the northern branch of the New York Central Railroad and the Erie Canal just south of it have broken up the great line of stage-coaches, and greatly decreased the immense processions of farm wagons loaded with produce, and the crowds of light-hearted travelers on pleasure and visiting excursions. Thus the great Broadway of the region round about has been almost cleared of its enterprise. The distilleries and hotels are deserted, and the towns either have ceased to grow or are in a state of decline. But the beautiful highway, almost equally good at any time of year, is still the same. Spring comes here days—almost weeks—in advance, and the mildness of autumn lingers with

retarded pace. Hence people prefer to live here, and in our county (Orleans) the Ridge is almost a continuous village.

In the woods and thickets on the low ground just north of the Ridge, where once the waters of the lake rolled, is our best locality for the summer birds, especially the Warblers. The 11th of May, 1879, was one of the loveliest spring days we have ever seen. The leaves were out, the sky was clear, the sun warm, and the very air seemed palpitating with life. My friend F— and I were skirting the woods north of the Ridge. O, what a day it was for Warblers! They were passing to the north in one continuous troop. Most abundant of all on that day were the Blackburnians (*Dendroica blackburniæ*), the most brilliant of the family. We can find some of them every spring in this locality, but they are not always numerous.

The male is black above, with a white streak on each shoulder, also several similar streaks along the lower part of the back and rump, the large wing-spots, and base and greater part of the outer tail-feathers, white; spot along the crown, streak from the base of the bill above the eye to the back of the head, thence bending forward in a broad band along the sides of the neck, and the lower eye-lid orange yellow, throat and upper part of breast fiery orange, fading into white; underneath the small spot on the side of the neck and the streaks along the sides, black. The markings of the female are similar to those of the male, except that all the colors are lighter, the orange on the throat fading into a delicate yellow.

In its very graceful movements this little bird keeps entirely to the trees, and not generally very high up, flitting from point to point in search of its hidden insect food, and emitting a loud, pleasing warble. It is mostly a bird of the upland, and quite fond of evergreens—a lovely sylvan orna-

ment, strikingly in harmony with this gala-day of spring. As is the case with most of our brilliant birds, the male requires several years to acquire his richest tints, hence Wilson and Audubon described the male of the second year as a separate species, called the Hemlock Warbler, and Bonaparte even distinguished it as of a different genus.

Wintering in Mexico and Central America, this Warbler migrates through Eastern North America generally, being seen by Audubon in the Magdalen Islands, Newfoundland and Labrador. Beginning to breed sparingly in the Middle States and Southern New England, its principal breeding range would seem to be to the northward. It is not uncommon in the breeding season in Maine. President MacCulloch, of Halifax, N. S., favored Audubon with the nest of this species, but regarded the bird as rare in that province. This must be true, as my correspondent, Mr. Andrew Downes of Halifax, an experienced ornithologist, does not report it.

Audubon describes the above nest as follows: "It was composed externally of different textures, and lined with silky fibers and then delicate strips of fine bark, over which lay a thick bed of feathers and horse-hair. The eggs were small, very conical towards the smaller end, pure white, with a few spots of light-red towards the larger end. It was found in a small fork of a tree five or six feet from the ground, near a brook." Mr. H. D. Minot says: "A nest of this species, containing young, which I found in Northern New Hampshire, was placed about twenty feet from the ground in a pine. Another, which I was so fortunate as to find in a thick hemlock-wood near Boston, was also about twenty feet from the ground. It contained three young and an unhatched egg, which measures $.65 \times .50$, and resembles the egg of the Chestnut-sided Warbler, being white,

with lilac, and principally reddish-brown markings grouped at the larger end."

THE CÆRULEAN WARBLER.

I discharge both loads from my double-barrel, and bring down a pair of Warblers, male and female, from the top of a tall maple. They are fine specimens of the Cærulean Warbler (*Dendræca cærulea*). Have they just dropped down from the skies, and brought the pure azure with them? Except the dusky wings and tail, dark wing-coverts and centers of many of the feathers and white under parts, the epithet, cærulean, or *sky-blue*, is certainly applicable to the male, particularly to his head, back and collar just above the breast. Excepting her lighter markings, less dusky wings and tail, missing collar and greenish tint over the head and back, the female is the same as the male. This species has the streaks along the sides, and the white marks in the outer tail-feathers, in common with the rest of the *Dendræca*.

The Cærulean Warbler, apparently belonging to the Mississippi Valley, and scarcely a casual visitor on the Atlantic Coast, like certain other species of its locality, finds its way around the Alleghany Mountains for a short distance, and is very common throughout the summer in Western New York. Indeed, it is not uncommon as a summer resident in the central part of the State. I have had every opportunity of observing its habits; and, as no writer has given it a full record, I bear it a special accountability.

It is a bird of the woods, everywhere associated with the beautiful tall forests of the more northern counties of Western New York, sometimes found in the open woods of pasture-lands, and quite partial to hard-wood trees. In its flitting motion in search of insect prey, and in the jerking

curves of its more prolonged flight, as also in structure, it is a genuine Wood Warbler, and keeps for the most part to what Thoreau calls "the upper story" of its sylvan domain. Its song, which is frequent, and can be heard for some distance, may be imitated by the syllables, *rheet, rheet, rheet, rheet, ridi, idi-e-e-e-e*, beginning with several soft warbling notes, and ending in a rather prolonged but quite musical squeak. The latter and more rapid part of the strain, which is given in the upward slide, approaches an insect quality of tone, which is more or less common to all Blue Warblers.

This song is so common here as to be a universal characteristic of our tall forests. The bird is shy when startled from its nest, and has the sharp, chipping alarm note of the family. The nest is saddled on a horizontal limb of considerable size, some distance from the tree, and some forty or fifty feet from the ground. Small and very neatly and compactly built, somewhat after the style of the Redstart, it consists outwardly of fine dried grasses, bits of wasp's-nest, gray lichen, and more especially of old and weathered wood-fibers, making it look quite gray and waspy. The lining is of fine dried grasses, or of fine shreds of the wild grape-vine, thus giving the inside a rich brown appearance in contrast with the gray exterior. The eggs, 4 or 5, some $.60 \times .47$, are grayish or greenish-white, pretty well spotted or specked, or even blotched, especially about the large end, with brown and deep lilac. They do not possess that delicate appearance common to the eggs of most of the Warblers.

THE BAY-BREASTED WARBLER.

In a small ash tree, a little out from the woods and alone in the field, I spy a Warbler somewhat larger than most of the family, and rather slow in its movements. Shooting it,

I recognize it as the Bay-breasted Warbler (*Dendroica castanea*). As I hold it in my hand, I cannot but admire the plain richness of its costume. The back is greenish-gray streaked with black; wings and tail dusky, the former barred, the latter spotted on the inner web of the outer-feathers with white; forehead and sides of the head black; head, throat, breast and sides a rich chestnut; under parts reddish-white, with a patch of clear light buff on each side of the neck, making a fine contrast with his dark colors. The female is similarly marked, but a good deal lighter.

Though not rare, as in New England and Nova Scotia, this species can hardly be called common in the migrations of this locality, except in certain seasons. The spring of 1880 brought it in large numbers during the second week in May. Mr. Allen says "in the Connecticut Valley it is generally more or less common, and sometimes very abundant." Dr. Coues found it rather common around Washington, D. C., in the migrations, and while none of the earlier ornithologists knew much about it, nor anything of its nidification, Mr. Maynard has found it resident and breeding, early in June, in considerable numbers at Umbagog Lake. The nest, which is rather bulky, and usually placed in a hemlock tree some fifteen or twenty feet from the ground, is of "fine, dead larch-twigs, mixed, in one instance, with long tree-moss," and is "smoothly lined with black fibrous rootlets, some moss and rabbit's hair," giving it a striking resemblance to the nest of the "Purple Finch." The eggs are said to be "bluish-green, more or less thickly speckled with brown all over, the markings becoming confluent, or nearly so, at or around the larger end, where the brown is mixed with lilac or umber markings." As to the migrations of this species, the same author says: "Avoiding the Eastern and Middle States, the majority pass along the borders of the Great

Lakes, through Ohio, Southern Illinois, down the Mississippi Valley, across into Texas, and so on into Mexico and Central America, where they winter. Returning in spring, they pursue a more southern route, keeping along the coast as far as the New England States, where they ascend the Connecticut Valley, generally avoiding Eastern Massachusetts." Its song, said to begin like that of the Black-poll and end like that of the Redstart, bears to my ear no resemblance whatever to either, but is a very soft warble, somewhat resembling the syllables *tse-chee, tse-chee, tse-chee, tse-chee, tse-chee*, but far too liquid to admit of exact spelling.

THE BLACK-AND-YELLOW WARBLER.

The wild grape, that common and exquisitely graceful ornament of our woods, has completely enshrouded a clump of bushes yonder; and as the leaves are just putting forth, of a reddish tinted texture, and hoary with down, they seem particularly attractive to the passing crowd of Warblers. There comes from its bowery depths a whistling warble, very liquid and sweet, and so soft that it can be heard only a few feet distant, *whee-cho, whee-cho, whee-cho, whee-cho, whee-cho*. After peering cautiously for several minutes, I recognize the quick, flitting movement of the Black-and-yellow Warbler (*Dendroica maculosa*).

In its northern breeding places its song is a loud, clear whistle, which may be imitated by the syllables *chee-to, chee-to, chee-tee-èè*, uttered rapidly and ending in the falling inflection. It is interesting to note how faint and imperfect an attempt at the final and full song on their breeding-grounds is the occasional soft, lisping warble of the Warblers as they pass us in the migrations. Any one thus studying these soft utterances has the merest prelude to the final burst of joy when the bird reaches its summer home.

I cannot always see *maculosa* as early as this, but may find it quite common about the 18th or 20th of this genial month of May. Emitting a soft note, *e-a, e-a*, probably a faint echo of its alarm note in breeding times—*cree-e-e-e-e-ep*, long drawn and like that of the Vireos—it keeps to the lower story of the woods, and is not at all shy, thus giving me a good opportunity to note its manners as it is gleaning diligently. As it peers gracefully among the tender foliage who can fail to admire its gentleness and beauty? Among the smallest (4.25 long and 8.10 in extent) and the most delicately formed of its genus, its color is really brilliant. Crown ashy-blue, margined on the sides with white; forehead, cheeks, back, wings and tail, black or blackish; throat, rump and under parts, bright lemon-yellow, the latter heavily blotched and streaked with jet-black; lower eyelids, wing-coverts and large central patch on the inner web of most of the tail-feathers, pure white; thus giving a striking effect as the tail spreads in its various flitting motions—this little beauty would do justice to the tropics. The female is less brilliant, and not so distinctly marked. But, excepting its sojourn in winter, which extends entirely south of the United States, this is especially a northern bird, breeding from Northern New England to Hudson's Bay.

Mr. C. J. Maynard describes a nest, taken at Umbagog the second week in June, 1870, as follows: "It was placed on the forked branch of a low spruce, about three feet from the ground, on a rising piece of land, leading from a wood-path. The nest, which contained four eggs, was constructed of dry grass, spruce twigs, roots, etc., and was lined with fine black roots, the whole being a coarse structure for so dainty looking a Warbler. The eggs were more spherical than any Warbler's I have ever seen. The ground color is a creamy-white, blotched sparingly over with large

spots of lilac and umber." Another, which was taken June 8th, 1871, was "composed outwardly of a few scattered dead twigs of larch, interwoven with stalks of weeds and dry grass. It is lined with black horse-hair; this dark lining forms a strange contrast with the faded appearance of the outer part. The whole structure is very light and airy in appearance, strongly reminding one of the nest of the *D. pennsylvanica*." This is in harmony with a note from Mr. Andrew Downes, of Halifax, N. S., who says: "I once found the nest of this bird on a hard-wood bough, breast high. It was composed of very light material. I could see through it." From a nest in H. A. Ward's cabinet, at Rochester, N. Y., and which was taken in Maine in June, I have the following note: "Placed in a fir bush two feet from the ground, shallow, and so frail that one can see through it, made of dried grasses and rootlets, and lined with fine rootlets and a little horse-hair. The 4 eggs are creamy-white, spotted and specked with red, brown and lilac, forming a delicate wreath. Size, .62 × .50."

Like other Warblers, *maculosa* has a strictly insect diet, and contributes greatly to the preservation of our forests.

THE BLACK-THROATED BLUE WARBLER.

As I recline on a bed of dry leaves, and listen to this chorus of traveling songsters, I notice one song, the tones of which strongly resemble the hum or shrilling of an insect. I recall the fact that insects almost invariably render their music by some external organ, the wings, or the wings and legs together, for instance, and so are instrumental musicians; therefore, this striking resemblance of a vocal performer is all the more remarkable. Again and again I hear it, *zwee-zwee-zwee, per-wee-wee-wee*,* in languid notes,

* I once heard this peculiar song preluded by a half-dozen beautiful, staccato, whistling notes.

slowly drawn out and not very loud. I become excited, and am conscious of each heart-throb as I listen. Now I have a full view of the musician—the Black-throated Blue Warbler (*Dendroica caerulescens*). Rather more than an average in size as a *Dendroica* (5.10 long and 7.75 in extent), he is of a rich slaty-blue above, often having graceful little black spots on the back; the inner webs of the tail and wings, black or dusky; throat, cheeks, and sides of the breast, jet-black; under parts, spots on the inner webs of the outer tail feathers, and nearly triangular spot at the base of the primaries, pure white. He is a genuine beauty; but his mate, of a bluish-olive above and yellowish-white beneath, the white wing-spot rather obscure, is one of the very plainest of the Warblers. Generally found in the upland forests, this is one of the commonest of the genus in Western New York during the migrations. Keeping rather to the lower parts of the trees, though often found in the tree-tops, exceedingly spry in all its movements, it is not only a thorough gleaner among spray and foliage, but also a fair flycatcher. Seldom seen here after the month of May, I conclude that I am not within the range of its breeding habitat. The most interesting and thorough account of its nidification is given in the Nuttall Ornithological Bulletin for April, 1876, by Rev. C. M. Jones, who reports a nest with four eggs, from the northeast corner of Connecticut, taken June 8th, 1874, and another, with the same number of eggs nearly hatched, on the 13th of the same month. Both nests were placed but a few inches from the ground, in small bushes of laurel in the woods, near a swamp. In regard to the first: "About five inches from the ground the bush separated into three branches, and in this triple fork the nest was situated." The second was "in two laurels. One of these lay horizontally in the fork of the other, and on the horizontal

one the nest was set, held in place by being attached on one side to the upright branches of the other." The nests, quite similarly built, are "firm and compact, composed outwardly of what appears to be the dry bark of the grape vine, with a few twigs and roots. This is covered in many places with a reddish-woolly substance, apparently the outer covering of some species of cocoon. The inside is composed of small black roots and hair." The eggs were "ashy-white," or "with a slight tinge of green, spotted and blotched with brown and lilac around the larger end, and somewhat speckled with the same over the entire surface, averaging in size from .61 by .47 to .66 by .50." As in the case of many of the rest of the Warblers, the female was quite tame, and allowed the discoverer to approach quite near the nest before she left it.

Spending the winter south of the United States, or in Florida, it has been found as far north, in summer, as Labrador. Its chief habitat, however, must be a little to the westward, as the New England writers do not speak of it as plentiful; Mr. Downes reports it rare about Halifax, N. S., while Audubon saw none in Newfoundland, and "in Labrador only a dead one, dry and shrivelled, deposited like a mummy in the fissure of a rock."

THE CHESTNUT-SIDED WARBLER.

In a small maple in the edge of an open part of the woods I spy one of my special favorites, the Chestnut-sided Warbler (*Dendroica pennsylvanica*). Arriving during the second week in May, keeping to the borders of open woods, especially where thickets are adjoined, and not generally aspiring very high, he is one of our common residents. Some 5.50 inches long, with yellow crown, sometimes delicately penciled with black; a ring of black slightly mixed

with white, extending from over the eyes around the back of the head; feathers of the back black, deeply edged with greenish-yellow, or with white across the shoulders; wings and tail blackish, slightly edged with greenish-yellow or white, the latter having the white markings on the inner web of the outer feathers; wing-coverts edged with yellowish-white; cheeks and whole under parts, satiny-white; throat bordered on the sides with black, the neck and breast bordered with bright chestnut. The female is quite similar, with the markings less distinct and the coloring less pure. Of a texture reminding one of fine muslin above, and of silk or satin beneath, there is something particularly delicate and chaste about the appearance of this bird; and his song, a warble in a somewhat whistling tone, the notes resembling the syllables, *weè-chee*, *weè-chee*, *weè-chee*, accent on the first syllable of each repetition, increasing to the last, is one of the most spirited of all the songs of the Warblers, and decidedly musical. Emitted as the bird is actively peering, flitting and gleaning among the branches, it gives the impression of peculiar sprightliness and joy. Even when in a momentary repose, the raising of the feathers about the head, the drooping wings and slightly elevated tail, show a happy self-consciousness.

The nest, built in the latter part of May or early in June, in a shrub or small tree, here commonly in the tops of the raspberry or blackberry bushes, never far from the ground, is rather frail, loose and very slightly fastened, composed outwardly of fibrous material intermixed with a webby texture, sometimes with the covering of beech-buds, and is lined with very fine dried grass, or shreds of bark of the wild grapevine, and more or less horse-hair. The eggs, commonly four, are specked or blotched with light-red and umber, mostly

around the great end, on a ground of pure white, or slightly tinged with greenish or grayish, and in shape are rather longish and pointed.

When disturbed or alarmed, the Chestnut-side has the *tsip* or *chip* common to the Warblers. It is said to breed abundantly in Massachusetts and throughout New England. Dr. Coues thinks it extends "little, if any, beyond," but Mr. Downes reports it as common around Halifax, N. S.

Mr. Wagner, who sends me a beautiful nest with eggs, says it breeds commonly in New Canada, Lunenburg Co.; and I found it in the Province, as I did also quite commonly in Great Manitoulin Island.

CAPE MAY WARBLER.

The day continues delightful, and as the Warblers are almost constantly in sight, we keep up a brisk firing. Among others, I bring down a beautiful male of the Cape May Warbler (*Dendrocata tigrina*), somewhat larger than most Warblers, some 4.25 long and 8.10 in extent, the crown is black; back wings and tail of the same edged with greenish-yellow, the latter with the white on the inner web of outer feathers; lesser wing-coverts white, the greater, partly edged with grayish-white; cheeks light-brown, sometimes chestnut; sides of the neck, rump and under parts, bright lemon-yellow, the latter streaked with black. One may always know this beautiful bird by its brown cheeks. The female is duller in marking and color. Though not abundant, this species is not infrequently found here during the migration. I saw quite a flock of them in a larch in a front-yard in the village as I was returning from church one bright Sunday, early in May. O, the inconvenience of seeing birds on Sunday! but who can keep his eyes shut when they are once opened!

Nowhere found to be numerous as yet, this bird is decid-

edly a stranger to ornithologists. I can learn nothing of its song or its note, and almost nothing that is explicit about its nest. Mr. Minot says "a nest found in the neighborhood of Boston closely resembled that of the Yellow-bird in every respect." He also reports the five eggs, laid the first week in June, as similar to those of the last mentioned species. Dr. Brewer's account of the eggs is simply that they are like those of other Warblers. Eastern North America generally is given as its habitat, and it is said to breed in the West Indies. Mr. Smith, in his annotated list of the birds of Maine, reports this species as "not very common. Mr. Boardman reports that it breeds in Eastern Maine, and it breeds in the western part of the State also, but in very limited numbers." Mr. Maynard, however, found these birds abundant in summer in the evergreen forests of Northern Maine. They kept to the tall tree-tops, and the songs of the males were particularly "lively and varied." He found the same species common at Key West in November, and some remained there all winter.

This species has a peculiar tongue, deeply cloven at the tip, and ciliate along the sides near the tip. The Tennessee, or Wandering Warbler, has the tongue quite similar, but not so deeply cleft.

CHAPTER XV.

PEWEES AND THE HOODED WARBLER.

IT is a sunny evening on the 15th of May, one of those bright and tender evenings of the opening spring, when the birth of soft foliage and early flowers reminds one of infancy; when neither the chill of the April atmosphere nor the damp dews of the dog-days chase the rays of the setting sun; but balmy airs, free, as yet, from annoying insects, and redolent of forest mould and fragrant flowers, bring healing with every breath.

Vegetation always affords a great variety of the tints and shades of green, so that a strongly contrasted fabric might be woven without introducing any other color; but these shades are never so varied as in early spring; besides, many other colors are then intermixed. The beeches have a tinge of yellow, the willows and poplars are hoary, the maples and beech saplings are reddish, the ashes have a dash of deep purple or brown, the green of the wheat fields differs from that of the meadows—in short, next to the brilliant effects of autumn are the softer tints of early spring.

THE WOOD PEWEE.

As I enter one of our luxuriant tracts of woodland, I hear the plaintive note of the Wood Pewee (*Contopus virens*), a beautiful representative of the Flycatcher. Strongly resembling the rough, guttural and somewhat hurried syllable

bles of the Common Pewee (*Sayornis fuscus*), this note is still very noticeably different in its slow, tender and somewhat melancholy whistle, *pe-wee*, the tone of which is in fine har-



THE WOOD PEWEE.

mony with the deep shadows of the thick forest where he so constantly takes up his abode. Generally the last syllable is given in a gentle upward slide, but not infrequently in a fine falling inflection, and the two syllables combined are always very pleasing. Wood Pewees have the sweet and child-like tones of the family; and, like the sentences of little children, they are delivered in the most significant slides and inflections.

About the size of Traill's Flycatcher and the small Green Crested—some six inches in length—and of the same general olive-green above and yellowish-white beneath (only the olive is quite a good deal darker than that of the latter), it is always to be differentiated by its nest, which is a very gem in bird-building. Saddled on a forked limb, often in the orchard, often in the forest, it is quite shallow, composed outwardly of dried grasses or stalks of small weeds, closely

fastened together with spider's web or silk of cocoons, and most elegantly covered with lichens, the whole appearing from below like a fine gray gnarl—the natural growth of the limb. It is lined with fine rootlets, sometimes mixed with vegetable down, or with fine grasses, including the fringy tops still green in color. This nest bears a great resemblance to that of the Humming-bird.

In its inclination to be sociable with man—for it loves to be in the orchard in his immediate neighborhood—in gentle, retiring ways, in sweetness of voice, and in architectural skill, the Wood Pewee is at once the *elite* and the favorite of its family.

The eggs, commonly three, late in June or in July, some $.70 \times .55$, are creamy white, with a wreath of rather heavy dark spots intermixed with many which are pale, as if partly effaced.

Wintering in the tropics, this bird summers in the Eastern United States generally, and in the British Provinces, breeding throughout. On the whole, it is rather a late migrant, reaching us about the middle of May, and leaving in September.

Most wonderful is that grouping of characters in natural objects by which they can be classified. How came there to be family resemblances where we do not find that community of descent ever existed? Why are we constantly detecting plans in the almost endlessly varied structures of natural history? How is it that a science or the understanding of nature by means of related forms and functions is possible? How can we fail to see here the evidences of an intelligent Creator, whose thoughts are thus wrought out into systems and designs? These things prove that the world neither made itself nor came by chance..

In its broadest relationship, the family of birds called

Flycatchers are formed throughout the tropical world, but the Flycatchers of America are a peculiar and well differentiated branch, some of which extend into north temperate latitudes. They are so distinctively marked as to be readily distinguishable from all other birds. Especially is this true of that division of the family peculiar to North America, the *Tyrannidæ*. The great body of the nearly four hundred species constituting the entire American group belongs to Central and South America, and are exceedingly varied in the details of form and color, some of them being very brilliant. Ours are merely the outlying and plainer varieties.

Our North American Flycatchers, the *Tyrannidæ*, may be distinguished by their rather large head, the crown feathers of which are more or less erectile; by the bill, which, broad at the base, rapidly narrowing to a sharp point, and depressed or flattened across the top and underneath, appears triangular when viewed from above, the upper mandible being hooked and notched near the tip, while the mouth is provided with stiff bristling hairs on either side; by the wing, the ten primaries of which are of full length and narrowed, or emarginate near the end; by the feet and legs, noticeably small and weak for the size of the bird; and by the voice, which, for the most part, is harsh. Solitary in their habits, they are generally brave, and, on account of their strictly insectivorous habits, are very useful.

THE OLIVE-SIDED FLYCATCHER.

Belonging to this same genus, *Contopus*, is the Olive-sided Flycatcher (*Contopus borealis*). About 7.50 long, having the form of the Wood Pewee and the color of the Common Pewee, or Phœbe, it is always to be distinguished from the latter by its light-colored under mandible, its dark olivaceous sides, and its "tuft of white,

fluffy feathers on the flank." It is readily distinguishable from all the smaller Flycatchers by its greater size. Both in structure and position, its nest resembles that of the King-bird, but its eggs, some $.85 \times .65$, are merely an enlarged pattern of those of the Wood Pewee. As its name indicates, this bird is of northern habitat, breeding from New England to high latitudes. Its notes and habits of diet are those of the Flycatchers in general. The former are given by Nuttall as "*ch phebèè*," or "*h'phebèè*," in a whistling tone somewhat guttural at the commencement. To my ear, as I listened to it recently in Nova Scotia, it sounded like, *put, pè-weè*, the first syllable short and aspirated, the two following drawn out in loud, clear, whistling tones.

SMALL GREEN-CRESTED FLYCATCHER.

In a shadowy part of the woods, where young hemlocks are thickly interspersed, I hear sharp, quick notes, *pee-whee, quee-rec-ee*, which I at once recognize as those of the Small Green-crested Fly-catcher (*Empidonax acadicus*), a very common summer resident of our upland woods. I look sharply into the shadows for some time before I get sight of it. It is perched on a dead limb, near the base of a small hemlock; and always accompanies its note with a quick jerk of the tail. Like the rest of the Flycatchers, it sits still on its perch and waits for its prey; and when that prey appears, be it beetle, fly, or moth, it darts quickly after it, cutting a smooth curve, which is sure to intercept it, and seizing it with a sharp click of the mandibles. With its quick, well-directed movement, the broad gape of its deeply cleft mouth and tangle of bristles on each side of it, there is but a slim chance of escape for its victim.

Some six inches in length, the crown feathers somewhat long and erected; the whole upper parts fine olive-green;

the under parts yellowish-white, with an ashy tinge on the sides and across the breast; tail and wings dusky; the bars across the latter, as also the margins of the secondaries and tertiaries, the eye-lids and feathers about the flank, light greenish-yellow; feet and upper mandible, deep brown or dusky; under mandible, pale—this bird is of pleasing appearance—a sprightly and cheerful ornament of the forest. There is nothing about it which wins our sympathy, however, as do the sweet plaintive notes and the elegant nest of the Wood Pewee.

Its nest, rather loose and rustic, is quite unique. Placed rather low, perhaps from five to nine feet from the ground, generally on the limb of a small evergreen, sometimes in a small hard-wood tree, it is loosely hung by the sides to a more or less fork-shaped part of the limb. Some three inches or more in external diameter, and some two inches or more through, it is loosely, even raggedly, woven of the fine spray of the hemlock, interspersed with grasses and some fibrous bark, or principally of fine grasses interspersed with the hemlock spray and bits of bark-fiber, more or less fastened together throughout with a fine webby or downy material, which also binds it to the forked limb; and it is ornamented with the bud-scales of the beech, and sometimes with its dried staminate blossoms. The inside, some two inches across and rather more than one inch in depth, is lined with fine hemlock spray, or fine grasses, or both; if principally of the latter, it has a light feathery appearance. It is always so loosely made that one can see through it.

The eggs, about $.75 \times .50$, are cream color, and sparsely specked or spotted with brown about the larger end or half. The female sits very closely; sometimes she can be caught in the hand, if one creeps stealthily under the nest; some-

times she will defend her nest most persistently, flying at the intruder with sharp notes and a snapping of the bill.

Rare in Southern New England, and scarcely extending beyond the Mississippi, the principal breeding range of *acadicus* (geographically a false name) is the middle district of the United States.

THE HOODED WARBLER.

From different points in the thick woods comes the common and familiar song of the Hooded Warbler (*Myiodioctes mitratus*)—*cheree-cheree-cheree-chi-di-ee*, the first three notes with a loud bell-like ring, and the rest in very much accelerated time, and with the falling inflection. Arriving early in May, this is one of our common summer residents throughout the dense upland forests, occupying the lower story of the woodland home, while the Cærulean Warbler occupies the upper. Here let me say that, in addition to its alarm note, a sharp whistling or metallic chip, which is very clearly characterized, the Hooded Warbler has two distinct songs, as different as if coming from different species. Never shall I forget how I was once puzzled by this. I was strolling in a thick forest near the corner of a slashing at evening twilight, in June, when I was surprised by a strange whistling melody—*whee-ree-whee-ree-eeh*, with a marked emphasis on the second syllable, and a still more marked one on the last. Part of the time this utterance was somewhat varied, a few notes being sometimes added, and again a few dropped. My curiosity was greatly excited, for I had supposed myself familiar with the sylvan voices in the neighborhood, but it soon became too dark to identify the bird. For nearly a week I went to that spot every day, always hearing the song, but never being able to get a clear sight

of the singer. It seemed exceedingly shy. In vain did I crawl on hands and knees among the undergrowth to get near to it, for just as I would seem about to gain a good view of it, the song would cease at the point under observation, and come from one more distant. Just as I was about to give the matter up, one evening, down came the singer, stage by stage, through the thick foliage, and, alighting within a few feet of me and in clear sight, gave the full effect of his whistling song. I have since heard the same song a number of times and in different places from the Hooded Warbler. So I conclude that in the case of this species there are, occasionally at least, two distinct and altogether different songs.

Five inches or a little more in length, all the upper parts are of a fine olivaceous-green, all the under parts bright yellow; the two outer feathers on each side of the tail are white nearly to the base; a jet-black hood, covering the crown and back of the head, extending along the sides of the neck around the cheeks and completely covering the foreneck and throat—distinguishes the male. The sunlight on his breast, the hues of the forest on his back, and the emblems of mourning about his head as he peers out modestly from among the foliage, he is one of the most strikingly beautiful of all our large and elegant family of Warblers. The female is similar, but much less brilliant, and has the mere outline of the black hood.

The Hooded Warbler belongs to the Flycatching Warblers, the bills of which resemble those of the Flycatchers, but in regard to all other points, especially the feet, they are true Warblers. The flesh-colored feet and legs of this bird denote that it is a Ground Warbler; that is, it belongs to those Warblers which make their home on or near the ground. Here it keeps itself, for the most part, well con-

cealed among the foliage of the thick undergrowth, having a rather slow and dignified movement for a bird of its kind.

It builds its nest from a foot to 18 inches from the ground, generally in the upright or somewhat leaning fork of a little bush. I once found it in a beech limb, lying on the ground, but still retaining the dry leaves. It is somewhat bulky, but quite neat, the lower part being of dry or skeleton leaves, the upper part, especially the high and well-defined rim, of long fibrous bark, as that of the grape-vine, ash, bass-wood or elm, laid almost as nicely as coiled cords, the whole structure being bound together by a webby material, and lined with fine grasses, bark-fibers and horse-hair. In location, material and structure, it is quite unique, and, like most other birds' nests, is a much more certain means of identification than the eggs themselves. These, 2-4, varying from $.63 \times .52$ to $.75 \times .50$, are clear white, delicately specked and spotted, sometimes even blotched, with reddish brown and lilac. In form and coloration the eggs are very variable. They may be found fresh from the last week in May till the middle of June. A second set may sometimes be found in July. The male aids in incubation.

Confined to the eastern part of the United States, and barely entering the southern part of New England, Western and Central New York, where it is quite common, must be about the northern limit of this species.

WILSON'S BLACK-CAP.

Wilson's Black-cap (*Myiodioides pusillus*), regarded as closely related to the above species, appears here occasionally as a migrant. Mr. Bruce, of Brockport, New York, once saw a large flock actively gleaning insects in a row of willow trees, about the middle of May. I have known one, also, to be taken in Western New York; but I have never

seen it myself. Mr. Smith gives it as a migrant through Maine, but not common; and Mr. Chamberlain reports it as an uncommon summer resident in New Brunswick. Audubon found it breeding commonly in Labrador, the nest being "placed on the extremity of a small horizontal branch, amongst the thick foliage of dwarf firs, not more than from 3-5 feet from the ground, and in the center of the thickets of these trees, so common in Labrador. The materials of which it is composed are bits of dry moss and delicate pine twigs, agglutinated together and to the branches or leaves around it, beneath which it is suspended; the lining is of extremely fine and transparent fibers. The greatest diameter does not exceed $3\frac{1}{2}$ inches, and the depth is not more than $1\frac{1}{2}$. The eggs are 4, dull white, sprinkled with reddish and brown dots toward the larger end, where the markings form a circle, leaving the extremity plain." Mr. Allen found the Black-cap "a common inhabitant of the sub-alpine and alpine districts in the Colorado Mountains, breeding from about 8,000 feet up to about the timber line." Dr. Coues found it a common summer resident in the mountainous districts of Arizona from May to September. Neither of them, however, found the nest. Small; length, 4.60; stretch, 7.00; bill much feathered, after the manner of the Flycatchers; the color, yellowish-green above, becoming brownish on wing and tail; forehead, sides of the head and under parts, bright yellow; the black patch on the crown being less extended in the female, and wanting in the young. The food is taken on the wing with a click of the bill, also after the manner of the Flycatchers.

THE LEAST PEWEE.

As I approach the edge of the woods on a rather low spot of ground, I hear the unmistakable notes of the Least

Pewee (*Empidonax minimus*)—*sewick, sewick*, written by some "*chebec*,"—quickly and sharply uttered. It has been here for two weeks or more. About the color of the common Phæbe (*Sayornis fuscus*), only a little grayer about the head, and scarcely more than five inches long, it is much smaller than the rest of our Flycatchers; and, not to speak of its peculiar notes, has a nest wholly unlike that of any of them, and eggs which never can be mistaken for those of any other bird in our locality; and yet, numerous as it is throughout the Eastern United States, neither Audubon nor Wilson distinguished it. It is very common here, particularly in thickets, the borders of the low-land forests, and the more open swamps. The nest, generally placed out of reach, sometimes fifteen feet or upward from the ground, commonly in the top fork of a small tree or sapling, sometimes on a horizontal limb, is neat and very closely compacted, composed outwardly of wood or bark-fibers, sometimes well intermixed and ornamented with vegetable down, and lined with fine fibers of bark, fine grasses and vegetable down in general, sometimes with fine feathers. The entire nest bears a strong resemblance to that of the Redstart. The eggs, three or four, from .60 or .65x.50, are pure white. "Breeds abundantly from Southern New England northward." (Coues.) Eggs are found here late in May or early in June.

THE YELLOW-BELLIED FLYCATCHER.

I have also taken the Yellow-bellied Pewee (*Empidonax flaviventris*), here in Orleans County late in May. As it ranges throughout North America and breeds from the Middle States northward, it probably breeds here. About 5.50 long, and olive-green above, it is readily distinguishable by its bright yellow under parts. The ring

around the eye, the lower mandible, and the bars across the wing-coverts are also yellow. Its note is said to be a "low *pe-a*," and its so-called song is said to sound like the syllables *killick*, repeated at rather long intervals. As to the nest and eggs of this species, authors have been quite confused; some reporting them pure white and others spotted; but a nest examined by Messrs. Deane and Pardie, on the 18th of June, 1878, was quite conclusive. It was placed in the upturned roots of a tree; and "a large dwelling it was for so small and trim a bird. Built in and on to the black mud clinging to the roots, but two feet from the ground, the bulk of the nest was composed of dry moss, while the outside was faced with beautiful fresh-green mosses, thickest around the rim or parapet. The home of the Bridge Pewee (*Sayornis fuscus*) was at once suggested. But no mud entered into the actual composition of the nest, though at first we thought so, so much was clinging to it when removed. The lining was mainly of fine black rootlets, with a few pine-needles and grass-stems. * * * The eggs, four in number, were perfectly fresh, rounded-oval in shape, and of a beautiful rosy-white tint, well spotted with a light reddish shade of brown." An elegant nest, sent me from Nova Scotia by Mr. Wagner, is made of fine dried grasses, arranged in a bunch of moss. The four white eggs, some $.71 \times .50$, are beautifully specked, spotted, and even blotched about the large end with light red. The nest was taken from the ground with fresh eggs the 15th of June.

TRAILL'S FLYCATCHER.

Another Flycatcher about our low lands and swamps, and especially along streams in such places, is Traill's Flycatcher (*Empidonax traillii*). About six inches long, or sometimes a little less, it is to be distinguished from the small Green-

crested Flycatcher by the darker olive of the upper parts, and from the Yellow-bellied Flycatcher by its entire lack of the bright yellow beneath, as well as by the absence of the clear greenish tinge so distinctive in the upper parts of the latter. Its voice, habit of location, and also the structure of its nest, differentiate it very clearly. Its ordinary note is a *pip* or *chip*, and what is sometimes called its song has been written *che-bee-u*. Indeed, a careful study of the more prominent notes of the smaller Flycatchers will distinguish them all.

The nest, which, according to the local habit of the bird, is in some swampy region, is placed in the *upright fork* of a bush or sapling, is quite compact, and externally bears indeed no small resemblance to that of the Yellow Warbler, except that it is a little larger. The outside is of gray fibrous material, intermixed with the bleached blades of dried grasses; the inside is of fine dried grasses, closely laid, and the whole structure is more or less mixed with vegetable down. As is the case with most Flycatchers, the interior of the nest is large for the size of the bird. The eggs, commonly three, some $.68 \times .50$, are creamy white, the larger half being more or less spotted and specked with reddish-brown.

Wintering in the tropics, Traill's Flycatcher finds its breeding habitat in the Eastern United States and the British Provinces, reaching the latter during the latter half of May.

COOPER'S HAWK.

In the top of a tall beech tree, I discover a hawk's nest, and while I am querying whether it be new or old, the female of Cooper's Hawk (*Accipiter cooperi*) alights on a limb near the nest, and presently drops into it. At the same time I see a friend passing along the winter road near

by, carrying a fine rifle. He is a good marksman, so I beckon him to my assistance. As I strike on the trunk of the tree the bird leaves the nest, and my friend takes her on the wing. Down she comes, so gradually that she almost appears as if alighting, and skimming along near the ground for some distance, finally drops, squealing loudly enough to alarm the whole feathered tribe in the neighborhood. As I approach her, she defends herself with the heroism of a true Hawk. The bullet has passed through her thigh, shattering the bone thoroughly, and the two outer pinions of one wing are cut away. But why should this simple shattering of the thigh bring down so strong a bird so readily? The explanation is to be found in the peculiar anatomy of the bird. In 1761, Peter Camper, a distinguished Dutch anatomist, discovered that the cavities in the bones of birds, which Gabbe had already observed to contain no marrow, were in direct communication with the lungs, and so participated in respiration. In 1774, John Hunter, the great English comparative anatomist, verified the same in his marvelous researches into the anatomy of birds. Extending their investigations in the most able manner throughout the entire class of birds, they discovered that "the air-cells and lungs can be inflated from the bones, and Hunter injected the medullary cavities of the bones from the trachea. *If the femur*"—the thigh bone—"into which the air is admitted be broken, the bird is unable to raise itself in flight. If the trachea be tied and an opening be made into the *humerus*"—the upper wing-bone—"the bird will respire by that opening for a short period, and may be killed by inhaling noxious gases through it. If an air-bone of a living bird, similarly perforated, be held in water, bubbles will rise from it, and a motion of the contained air will be exhibited, synchronous with the motions of inspiration and expiration.

“The proportion in which the skeleton is permeated by air varies in different birds. In the *Alca impennis*, the Penguins (*Aptenodytes*) and the *Apteryx*, air is not admitted into any of the bones. The condition of the osseous system, therefore, which all birds present at the early periods of existence, is here retained through life.

“In the large Struthious Birds, which are remarkable for the rapidity of their course, the thigh-bones and bones of the pelvis, the vertebral column, ribs, *sternum* and scapular arch, the *cranium* and lower jaw, have all air admitted into their cavities or cancellous structure. In the Ostrich the *humeri* and other bones of the wings, the *tibiae* and distal bones of the legs, retain their marrow. Most birds of flight have air admitted into the *humerus*; the Woodcock and Snipe are exceptions. The Pigeon tribe, with the exception of the Crown Pigeon, have no air in the *femur*, which retains its marrow. In the Owls also the *femur* is filled with marrow; but in the Diurnal Birds of prey, as in almost all other birds of flight, the *femur* is filled with air. In the Pelican and Gannet the air enters all the bones with the exception of the *phalanges* of the toes. In the Hornbill even these are permeated by air.”*

My specimen of Cooper's Hawk is one of the largest, some 20 inches long. She is sometimes scarcely more than 18 inches long, while the male is never more than 18, and may not exceed 16 inches in length. This species, which in structure and color is almost precisely like that of the Sharp-shinned Hawk, being, however, unmistakably larger, makes with it, and it only in this country, a strongly marked genus, the *Accipiter*—the distinctive generic points being: 1st, that the feathers extend but slightly down the tarsus; 2d, that the toes are long and very slender, much webbed at the base,

* Comparative Anatomy and Physiology of Vertebrates, by Richard Owen, Vol. 1, pp. 213, 214.

and thickly padded; 3d, that the fourth primary is longest, the "second shorter than the sixth," and the first noticeably short; 4th, the soft and finely blended character of the colors above, in maturity — being a fine ashy-brown, blackish on the head. The under parts of both birds are white, with fine cross-streaks of light-reddish. They bear about the same relation to each other as that of the Hairy to the Downy Woodpecker. Cooper's Hawk is especially a bird of the United States, most common in the Northern States, and extending but slightly into the British Provinces. The Sharp-shinned Hawk is sometimes found here in winter, but Cooper's Hawk goes farther south. Early in May is the time for the nidification of the latter in this locality. The nest, in the crotch of a tall tree, or where several limbs join the trunk, always very high, is built of sticks and lined with dry grass, or strips of bark, sometimes containing feathers, the depression being but slight. The eggs, 3 or 4, sometimes 5, about 1.90×1.50 , are white, greenish or grayish tinged, often clear, sometimes slightly blotched with dark drab or brown. Mr. Samuels mentions a pair robbed of their eggs four times in the same season. "They built different nests in the same grove, and laid in the four litters, four, five, and three eggs, respectively. The eggs of the last litter were very small, but little larger than those of the Sharp-shinned Hawk."

The ordinary flight of this bird is rapid and straight-forward, the regular strokes of the wings being frequently relieved by sailing. In the mating season, when it is very noisy, having a note which sounds like *chee-e-e-ah*, I have seen it, high in air, above the tops of the tallest trees, shooting toward one of its kind whose voice it heard in the distance, with half-closed and perfectly motionless wings, and with a rocket-like speed and a gracefulness which no

language could describe. In pursuit of its prey, which may consist of small quadrupeds, the smaller ducks and waders, grouse, and the larger kinds of the common land-birds, it moves with great spirit and adroitness, and seldom misses its quarry. So well known is it in the poultry yard that it is called the "Chicken Hawk." When reared from the nest it becomes so thoroughly domesticated as to need no confinement.

THE SHARP-SHINNED HAWK.

The Sharp-shinned Hawk (*Accipiter fuscus*), in every way so similar to Cooper's Hawk, is some 12 inches long; brown or slate-colored above, with a few white spots on the back of the head and on the scapulars; tail also brown or ashy, but considerably lighter, with fine dark bands across it, sometimes tipped with whitish; the white under parts closely and narrowly barred with reddish; throat, narrowly streaked lengthwise with brown. Its nest is similarly placed to that of the former species, only not so high up in the tree, but is occasionally placed on a rock. The eggs, some 4, are about 1.40×1.20 , roundish, clear white, or perhaps slightly tinged with blue or green, heavily and distinctly marked—patched—with brown.

This Hawk reaches Western New York the latter part of April, and its eggs are laid early in May. It is readily distinguished by its short, broad wings, and rather nervous and irregular flight; but it moves rapidly, and sometimes with great impetuosity, so that it has been known to pass through several glass partitions of a green-house. Seizing its prey on the wing, in the manner of a true Hawk, it dashes after it with the utmost directness, moving high or low, to the right or left, as if by some continuous attraction. With an unerring stroke, it wounds fatally in the very act of capture, and then bears its prey to a tree, to be devoured at

leisure. In addition to the small birds thus taken on the wing, it may pounce on one larger and heavier than itself, or it may swoop down upon the small quadrupeds, or, after the manner of the smaller Hawks in general, make its repast even on insects. As with birds of prey in general, the surest way of escaping its clutches is by soaring; the thickets, into which the smaller birds generally dive when pursued, affording but little obstruction to its penetrating flight. Its note, which is but seldom heard, is sharp and shrill. Ranging over all North America, it may be found in New York and Massachusetts during mild winters.

CHAPTER XVI.

BIRDS AROUND THE HOUSE.

ON a beautiful sunny morning, the 16th of May, I am watching the birds and listening to them from my study window. From the apple trees and the currant bushes in the garden comes the voluble and sprightly song of the Common Wren (*Troglodytes aedon*). Of all the songs of birds within the range of our acquaintance, there is no melody more gushing, more sparkling, more full of the very soul of vital energy, than the warbling, twittering performance of this most active and industrious little creature. If the syllables have not that measured cadence, nor the tones that heart-searching vibration, which move one to melancholy or to joy, to prayer or to praise, it touches the nerves with a startling impulse, like the gust of the summer wind shaking the leaves, the patter of rain on the roof, or the streaming of sunshine through a rift of the clouds. How much quicker my thoughts move after that trill from the garden wall, and how suggestive is each note of its repetition! Now he mounts a hitching-post, in full view, in the adjoining church-yard, and the sight of him is almost as animating as his voice. The tail, which drooped during his song, is immediately thrown up and forward as it ceases; he twists and turns upon his nimble feet as if on a swivel or pivot, that can let him up and down and around in every direction; his sharp bill signals every point of the com-

pass, and his tiny, sparkling eye seems to take in every object.

Now he drops from the post, and flying low, with a steady flutter of his short, round wings, he dives into a thicket of rose bushes. Here he slides up and down the stems like an automaton, peers under the leaves with every conceivable twist of the neck, and runs on the ground, darting in and out of rubbish with the quickness and penetration of a mouse.

The great variety and abundance of his insect food, whether gleaned amidst the thick foliage, drawn from chinks and crevices, or captured on the wing, is taken so adroitly that only the close observer can comprehend the important services of this restless and diminutive species in subduing these pests of the house and garden. Alas, that man, that lord of creation, should eat his currants, his cabbage and his lettuce, all unconscious of how much the birds have saved for him !

Presently I hear the Wren again, and in altogether another part of the garden. This time he is not a singer but a scold. How angry is his *chirp*, as he berates that white cat, which, standing fair in front of his retreat in the blackberry bushes, ogles him with her green fire-balls, and moves the end of her tail in signal of the murder-prepense in her heart. But this wee Wren is one of the bravest of birds, and is always so well on the alert that Grimalkin soon gives up in despair, and concludes to suffer alike the mortification of the scolding and the disappointment of the stomach.

Having been quite curious as to the nesting of this Wren, which has come so regularly to these premises for years, I go out into the yard and watch his movements. There, he has taken a spider from that web in the apple-tree and has disappeared under the horse-sheds back of the church. Conclud-

ing that his nest is somewhere in that structure, I hide away and watch. In a few moments he flits down and drops into a rather loose mortise-joint, where a brace enters a post. The entrance is very small, but there is quite a space inside. Having examined any considerable number of nests, one can conceive the contents and arrangement of such a cavity without access to it. However large the space, it will be well filled up with rough, crooked twigs, leaving a bristling and irregular passage barely large enough to admit the tiny occupant, which passage leads to the nest, ensconced away in the remotest corner. The nest proper is composed of dried grasses well laid, and is well lined with hair and feathers. The variety of cavities appropriated for a nest by this pertinacious little bird is beyond account—the bird-box, the holes about the house-cornice, a hole in a post of an old apple-tree, the mud dwelling of the Eave Swallow—the inside of a log-pump, the pocket or sleeve of an old coat hanging in an out-building, an old hat with rent crowns stuck up against the wall, the brain-cavity of a horse's skull mounted on a stake—in short, any cavity into which sufficient material of the proper kind can be stowed and arranged for a breeding tenement. A nest once found in the clothes-line box of Professor Ware, of Cambridge, Massachusetts, and which has attained classic fame, filled a space “considerably more than a foot square,” and consisted of “the exuvium of a snake several feet in length, large twigs, pieces of Indian rubber suspenders, oak leaves, feathers, pieces of shavings, hair, hay, etc., etc.”

With what boldness and pugnacity this Wren will drive the gentle Bluebird, or the large Black Martin from his box; how he will dislodge the Eave Swallow from his jug-nose tenement; thus taking possession of the rightful home of another, on which he has no claim whatever; and how

will contend for his premises with those of his own kind, is familiar to all who know him.

The eggs of this species, some half-dozen or upward, about $.60 \times .48$, are a delicate flesh color, very finely specked and sprayed all over with reddish-brown, thickening into a wreath or large spot at the large end.

About five inches long, this Wren is deep brown, crossed with bars of black above, the head and neck being plain; the throat and breast are buff, or a light clay color; belly and vent white, spotted with brown and black; the tail, which is much longer than that of the Winter Wren—about two inches—is brown, crossed with lines of black; the feet are flesh color.

Wintering in the Southern States, this species ranges throughout the Eastern States, west to Nebraska and Dakota, and north somewhat into the British Provinces, becoming rare already in Northern New England.

THE EAVE SWALLOW.

As I look up into the cloudless sky I am impressed with its great depth and transparency. If I believed in the old Ptolemaic theory of separate crystalline spheres, or hollow globes, in which the various planets, including the sun and the fixed stars as a system, were severally set, each sphere revolving with its own velocity, I should think that some mystic power in the air had been very thoroughly at work, and had newly cleansed and polished these transparent spheres throughout. Against this clear deep, multitudes of Eave or Cliff Swallows (*Petrochelidon lunifrons*) are describing their elegant flight. This species, and the family it represents, are in the strictest sense "birds of the air," since they spend nearly all their time in that region. Their small weak feet, long pointed wings and great nervous

energy are all in constitutional harmony with this fact. There is a language of motion as well as of sound; hence, like a strain in music, the flight of each bird conveys its peculiar idea. There is majesty in the soaring of the Eagle, alarm in the *whir-r-r-r* of the Partridge, haste in the whistling strokes of the Duck, joy in the exulting curves of the Goldfinch, and a happy contentment in the easy gyrations of the Swallow. My mind goes into repose, and drinks in the sweet spirit of contentment, defying galling burdens and corrosive cares, as my eye follows the spirit-like sweep of those sabre-shaped wings, each curve describing a happy thought on the sunny sky.

And what a study might there be of marvelous adjustment and conformity to mechanical laws, by which this little creature makes its way through the trackless air with such nice accuracy, that it can "pick up a flying gnat" whilst moving "at the rate of more than a hundred miles an hour." Or who can conceive how many tickling and prickling annoyances of insect-life are prevented for us, during the long summer days, by the semi-domestic services of these Swallows, each one of which probably destroys at least a thousand insects every day.

For some time it has been a question with ornithologists whether the Eave Swallow gradually extended its habitat from Mexico through North America, as it was formerly believed. The very best authorities now conclude that it has always been "amenable to the ordinary laws of migration and spread over nearly all of North America, the South Atlantic States, perhaps, excepted;" and that "the numerous recorded dates of its appearance and breeding in particular localities merely mark the times when the birds forsook their natural breeding places and built under eaves, which enabled them to pass the summer where formerly they were

unable to breed for want of suitable accommodations." (Coues.) In the great canons of the west, along the vertical walls beneath shelving rocks, sometimes where great rivers rush between frowning battlements, the strange, bottle-shaped nests of this species, according to its primitive style, are hung by thousands in the most fantastic arrangements. Among all our birds none has discovered so great an inclination to accommodate itself to man, and to avail itself of the advantages of civilization, as the various species of the Swallow. The Purple Martin abandons the holes in trees and takes up his abode in almost any convenience about human habitations; the Fork-tailed Swallow has abandoned the trees of the forest and the caves, for the rafters and peaks of the barn, and so has received the name, Barn-swallow; the White-bellied Swallow is inclined to leave his hollow stump for a hole in the wall; the so-called Chimney Swallow, or Swift, has left the hollow trees formerly appropriated, and will rather endure the daily smoke of the chimney than leave the neighborhood of man; even the Sand Martin has shown some inclination to take to cavities under the bridge, and so join the thoroughfare of man, rather than remain in the banks of lonely streams; and how the Eave Swallows will swell their colonies from year to year under those eaves which afford a convenience, every one has had opportunity to note. This tenement of mud is a very artistic thing of its kind. The swell of the main part, the narrowing jug-nosed entrance, so exactly rounded, and the well cemented pellets of mud, giving the external surface such a neat, pebbly appearance, are all entirely beyond human imitation, as I fully satisfied myself by many experiments in the days of my childhood. How cozy it looks up there under the broad eaves. Soft bits of hay and an abundance of down are there, to accommo-

date the frail eggs and the tender young. What sweet peace reigns in that little household! What a world of domestic comfort discovers itself in that soft musical chatter, so much like animated conversation! What are those little hearts saying to each other, up there away from all the rest of the world? Surely no burdened spirit is carried into the air from that household. But woe to the intruder who may be found within the sacred precincts when the parent returns; and this sometimes occurs in fresh-made nests by pilferers who are too lazy to travel for material for their own domiciles. After a few notes of astonishment and warning, uttered in harsh syllables, the offender is unceremoniously thrust out, and, held by the scruff of the neck, dangles awkwardly in the air for several seconds, being finally allowed to escape with a volume of execrations.*

What happy playful creatures are the members of this extremely peaceful colony. Many a sport do they enjoy, unnoticed by the busy and inobservant owner of the premises. See them play with that feather floating like a thistle-down in the air! One seizes it in one of his exact curves, and carries it up many feet, simply to drop it for his comrade, who again snatches it as it nears the ground, and elevates it for the pleasure of the next neighbor who catches it in like manner. Thus the feather is a plaything for the whole company in turn, just as boys would use a ball or a shuttlecock; and their merriment of chat and laughter is equal to that of the happiest and most animated human voices.

Those rosy eggs with specks of brown, scarcely to be distinguished from the litters hung to the rafters inside, are incubated by both sexes; and when the young are out of the shell, the parents skim the air most assiduously to

* The European House Martin has been known to close up the entrance, and so imprison the Common Sparrow of the Old World, which might be entering its nest in search of accommodation for itself; our Martin keeping guard while the mate did the mason work.

secure the abundance of insect-food necessary to their voracity. For just as nervous people eat much without growing fat, the nourishment of their food being consumed by their nervous energy, so these active birds are almost unlimited eaters.

Two broods may be raised in a season, and in the latter part of August, the ridge of the barn, or the telegraph wire, attests to the numerous progenies which migrate southward for the winter, to return again to the middle districts, from their distant sojourn, late in April or early in May.

About five inches long, the tail not being forked, this species has the upper parts a glossy steel-blue, there being a white triangular or crescent-shaped spot on the forehead (hence the specific name *lunifrons*); throat and sides of the head, chestnut; rump, reddish; breast, sides, and collar about the neck, rust-color, becoming white or whitish on the belly. As with the rest of the Swallows, the sexes are nearly alike, and the young are similar. The white or whitish mark on the forehead is always distinctive.

Wintering in Central America, this species breeds nearly throughout North America.

THE BLACK MARTIN.

On this same beautiful morning the Black Martins (*Progne purpurea*) are abroad. The fine curves in flight and the easy but rapid sailing, as well as the form, mark this bird as a Swallow, huge though he be for one of his kind. His notes, however, are peculiar to himself. *Chee-u, chee-u, chee-u, chee-u*, uttered in rapid succession, may represent his common vocal performance. Often he adds a peculiar guttural croak or chuckle, especially when alighted about the breeding tenement, the above-described being

especially his language while on the wing. Some seven inches long, wing six inches, tail slightly forked, this species appears large for one of his kind.

The mature male is "lustrous blue-black" all over. The female and young have a rather dull modification of the color above, being more or less white below, streaked and spotted with gray.

Undoubtedly this species originally bred in holes in trees, and it is occasionally known to do so still. Now, however, it appropriates a hole in the house-cornice, a bird-box, or an apartment of the dove-house. The "solitary Indian" of the olden times trimmed the boughs from a sapling near his wigwam or rude cabin, "leaving the prongs a foot or two in length, on each of which he hung a gourd, or calabash, properly hollowed out," for the bird's convenience. Later still, on the banks of the Mississippi, the negroes stuck up "long canes, with the same species of apartment fixed to their tops, in which the Martins regularly bred." If rude and savage breasts discover such cordiality toward this bird, what wonder if civilization and refinement attract it by miniature houses, especially since the species follows man to the populous village and the crowded town, and is not disturbed even by the thoroughfares of business.

The breeding tenement adopted by the Martin is fitted up with a nest of bits of straw, hay, and dry leaves, lined with feathers. The eggs, some $.95 \times .70$, rather small for the size of the bird, are pure white. Thus the nest and eggs of the Martin bear a close resemblance to those of the White-bellied Swallow.

Its bill is "very stout" for a Swallow, and is "curved at the end." Its bill of fare is by no means confined to the tiny insects so abundantly captured by the smaller Swallows, but includes "wasps, bees, large beetles," etc.

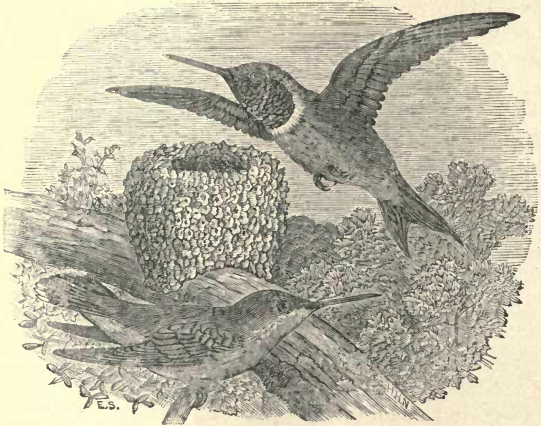
All careful observers bear testimony to the remarkable pugnacity of the Martin, which attacks successfully the Hawks and Owls generally, and even the Eagle, and so pesters them as to drive them from the neighborhood, thus securing more or less protection for the Domestic Fowl. It will join common cause with the Kingbird, or it will attack the Kingbird in turn and compel him to flee.

Wintering in the tropics, the Black Martin ranges throughout the United States and far north into Canada, breeding nearly throughout its range. It reaches New York late in April, and leaves late in August or early in September. Late in August they sometimes assemble in large flocks, after the manner of the Swallows generally, preparatory to their southward flight.

THE HUMMINGBIRD.

As I am gazing on that Tartarian honeysuckle—a thing of splendid beauty, with its abundant sprays of blossoms of snowy white and bright purple set off by an exuberance of dark-green leaves—a Ruby-throated Hummingbird (*Trochilus colubris*) shoots around the house and hums in front of the clusters of blossoms. There are many birds, the flight of which is so rapid that the strokes of their wings cannot be counted, but here is a species with such nerve of wing that its wing-strokes cannot be seen. “A hazy semicircle of indistinctness on each side of the bird is all that is perceptible.” Poised in the air, his body nearly at the perpendicular, he seems to hang in front of the flowers, which he probes so hurriedly, one after the other, with his long slender bill. That long, tubular, fork-shaped tongue may be sucking up the nectar from those rather small cylindrical blossoms, or it may be capturing tiny insects housed away there. Much more like a large sphinx moth, hover-

ing and humming over the flowers in the dusky twilight, than like a bird, appears this delicate fairy-like beauty. How the bright green of the body gleams and glistens in



THE HUMMINGBIRD.

the sunlight; while the ruby-colored throat, changing with the angle of light as the bird moves, is like a bit of black velvet above the white under parts, or it glows and shimmers like a flame. Each imperceptible stroke of those tiny wings conforms to the mechanical laws of flight, in all their subtle complications, with an ease and gracefulness that seems spiritual. Who can fail to note that fine adjustment of the organs of flight to aerial elasticity and gravitation, by which that astonishing bit of nervous energy can rise and fall almost on the perpendicular, dart from side to side, as if by magic, or, assuming the horizontal position, pass out of sight like a shooting star? Is it not impossible, to conceive of all this being done by that rational calculation

which enables the rower to row, or the sailor to sail his boat?

The Hummingbird has alighted on a twig of the cherry-tree near by. I can barely see his feet, like bits of fine-drawn wire, supporting the wee bit of a body. He looks nervously about him, pointing his long bill in every direction, and sidles gracefully along his slender perch. Presently another male appears, with an equally ruby throat, and dashing at each other, they describe a swift zigzag, whirling about most perilously, squeaking like mice, and finally disappearing with a rapidity which the eye can follow but for a moment.

About 3.25 long, this species is golden-green above, with a fine gloss, and white beneath, the wings and tail being a purplish-brown. The male has the metallic-lustrous ruby on the throat, which is wanting in the female and the young. The female has the sides of the tail white.

The nest of this species, about the size of half a hen's egg, and saddled on a small limb, is made of a soft, vegetable, cottony substance, sometimes white, sometimes reddish or grayish, externally intermixed, perhaps, with the scales of beech-buds—a sort of staple article in the nest of many kinds of birds—seemingly to give it consistency, the whole structure being most elegantly covered outside with brightly colored lichens; thus appearing so much like a natural growth or excrescence of the wood itself as generally to elude observation. It may be placed pretty well up in the tree in the depth of the forest, or lower down in the orchard, or on a currant-bush or rose-bush in the garden, or on a coarse weed-stalk in the vicinity. The two tiny oval-oblong eggs, pure white and translucent, lying on their bed of silken down, edged and surrounded with the gayest lichens, never fail to move the heart of the beholder as one of the rarest bits of natural beauty.

But the most wonderful characteristic of our Hummingbird, perhaps, considering his tropical relationships, is the great northern range of his summer habitat. Excepting several western species, which migrate along the Rocky Mountains and westward to a pretty high latitude, the four hundred species and upwards which make up the family of Hummingbirds, are found almost entirely in tropical America. They are creatures associated with the high temperatures and the luxuriant flora of the American section of the torrid zone. But our tiny wanderer goes all the way through Eastern North America to the semi-frigid regions of Labrador and Hudson's Bay. He is the great traveler of his family. And with what a magic and spirit-like stroke of the wing does he compass sea and land. He passes by the lumbering strokes of the Heron, the Wild Goose or the Eagle, almost like a streak of lightning, and sets at utter defiance all the humming, buzzing wings of the insect world.

Our Ruby-throat is one of the plain and more diminutive members of his family. In this relationship of hundreds, while the unity binding them together is great, the strongly marked variation characterizing the different groups is still more remarkable. The Sabre-wings, the Coquettes, the Rackets, the Puff-legs, the Sylphs, the Thorn-tails, the Star-fronts, etc., have each their distinguishing peculiarities. Whether we contemplate the snowy down of the Puff-leg, the elegant crest of the Coquette, the pure white ruff of the Ruff-neck tipped with scintillating spangles, the suspended and fantastic patches on the tips of the long tails of the Rackets, the glistening surface of the long scissors-shaped tails of the Sylphs, the glowing points of the Star-fronts, or the burning lustre of the Fiery Topaz, we see that the highest possible effect of both form and color is here attained.

Nor do these marvelous manifestations of beauty serve any necessary purpose whatever in the mode of their existence. The theory of "Struggle for Life" certainly affords no explanation of either their origin or their continuance. Here evidently are beauty and ornament for their own sake, and that of the most astounding and transcendent kind. And why should these "Glittering Fragments of the Rainbow" be found only in "the tropical forests" and "amid the rich drapery of the orchids" of the New World, if mere physical causes are to account for their origin? As we gaze upon these tiny objects of the most delicate and flaming beauty, our æsthetic nature moving us to tears, let us acknowledge that the hand which made them is Divine.

The European Sparrow (*Passer domesticus*), now so common about our houses both in the city and in the country villages, is so well known as to need no description in a work like this. Suffice it to say, it is not a favorite, and the utility of its immigration is doubtful.

CHAPTER XVII.

THE FIRST DAYS OF JUNE.

WHAT greater charm has the forest than its extensive variety of ferns! What a highly-wrought thing of beauty is the pattern of each frond! In that immense vegetation period in geological history called the coal-age, when no flower breathed its fragrance on the landscape, the immense numbers of magnificent ferns, which have left their imprint in the rocks, assure us, nevertheless, that the world was very beautiful. Of those continents of flowerless plants my imagination is striving to form some conception, as I wade through the many varieties of ferns which adorn a low open wood north of the Ridge—a place where I frequently go, these first days of June, in search of birds' nests.

THE GOLDEN-WINGED WARBLER.

In the center of this grand fernery, the forest is a sort of open grove, letting in the sun with but little obstruction, and thus forming a very paradise for the study of oology. Most birds of the forest shun the gloom and dampness of its more shadowy parts, when locating their nests, and seek out the more or less open spaces, sheltered from the wind and warmed by the sun. Hence I lay me down here, in a fragrant bed of ferns, to listen and observe. On this bright, sunny morning, everything is astir. I am in the midst of a grand concert, which few performances of the human voice,

even, can equal. Thrushes, Warblers, Vireos and Sparrows, all harmonizing finely; while the rumbling strokes of the wings of yon male Partridge and the shrill notes of the Crested Flycatcher come in like a drum and tambourine. I am giving particular attention to a fine, soft tone, sounding like *tsway, dsay, dsay, dsay*, slowly drawn out, and reminding one of the leisurely and pleasing hum of an insect. It is the song of the Golden-winged Warbler (*Helminthophaga chrysoptera*). Five inches long, the male is a fine slaty-blue above; crown and broad wing-bars, sulphur yellow; cheeks and throat, black; a white line over the eye, and one from the gape backward; under parts grayish-white; outer tail-feathers, marked with white; the female, with all the colors and markings more obscure. Arriving during the second week in May, this species resides with us until September; but it is not numerous, and the nest is by no means easy to find. As I watch the male, pretty well up in a second-growth maple, my attention is arrested by a sharp, chipping note in the thicket just below. Straining my eyes for some minutes, I detect a female Golden-wing, much excited, being in all probability the mate of the one singing. Understanding the excitement and the sharp chipping note as certain evidences of a nest near by, I at once begin search. This is a Ground Warbler, and therefore the nest is, of course, on the ground. After breaking down the ferns and sadly spoiling the beauty of the spot in my thorough but useless search, I retire behind a tree to watch the movements of the still excited female. Very soon she drops down from the thicket into an undisturbed spot at the root of a little bush. On creeping up softly, I spy her tail over the edge of the nest, and clapping my hand over her, secure both without difficulty. The nest is uncommonly deep, not very neatly built, outwardly of dried leaves, then of long

pieces of rather coarse bark, then of fine strips of the same and stems of dried grasses, and lined with fine hair-like reddish fibers, which must be the inner bark of the wild grape-vine. The eggs, five in number, small, about $.48 \times .60$, scarcely the size of the Goldfinches, are creamish-white, delicately and sparsely specked with brown and lilac at the large end.

Wintering in Central America, the Golden-wing's summer range is to New England and Canada West, and west to the Missouri. Its nest has been taken as far south as Georgia.

Similar to the last, but richer and darker in color, and having the black patch on the throat much larger, is Lawrence's Warbler (*Helminthophaga lawrencei*), of which two have been found in New Jersey.

Very similar in size and form, as also in general coloration, to the Golden-wing, is the White-throated Golden-wing (*Helminthophaga leucobronchialis*), discovered by Wm. Brewster in May of 1870, in Newtonville, Mass. His description is as follows: "Crown, bright yellow, slightly tinged with olive on the occiput. Greater and middle wing-coverts yellow, not as bright as the crown. Superciliary line, cheeks, throat and entire under parts, silky-white, with a slight tinge of pale yellow on the breast. Dorsal surface—exclusive of the nape which is clear ashy—washed with yellow, as are also the outer margins of the secondaries. A narrow line of clear black passes from the base of the upper mandible, through and to a short distance behind the eye, interrupted, however, by the lower eye-lid, which is distinctly white."

At first it was thought by many to be simply a variety of the Golden-winged Warbler, but up to May, 1879, some nine specimens of the White-throated Golden-wing had been

identified, mostly in New England, thus fully differentiating it as a species. Its notes and habits in general are very similar to those of its near relatives.

THE MOURNING WARBLER.

Seating myself at another point in the vicinity, under the shade of a silky dogwood in full bloom, I study the song of the Mourning Warbler (*Geothlypis philadelphia*). This song, which varies considerably with different individuals, may generally be denoted by the syllables, *free, free, free, fruh, fruh*—the first three being loud and clear, and the last two, in a lower tone, and so much softer and shorter that a moderate distance, or a slight breeze in the opposite direction, may prevent one from hearing them. Having every opportunity for the study of this song—for the Mourning Warbler is a common summer resident in thickets and open places of the woods here—I find little or no resemblance between it and the melody of the Water-thrush.

While I sit watching, the male leaves his place of song in the clump of spice-bushes, and, dropping into the top of some tall cinnamon ferns, meets the female. Well aware how great a desideratum is the nest of this bird, and that it builds on the ground, I begin search on hands and knees with much enthusiasm. I work hard for several hours, till the entire surface for many square rods around has been carefully examined, but find no nest.

Mr. Burroughs reports a nest found "in a bunch of ferns, and about six inches from the ground. It was quite a massive nest, composed entirely of the stalks and leaves of dry grass, with an inner lining of fine, dark-brown roots. The eggs, three in number, were of light flesh color, uniformly specked with fine brown specks. The cavity of the nest was so deep that the back of the sitting bird sank below

the edge." This instance is quite representative of the usual manner of the nesting of this species. Sometimes, however, the nest would seem to be less bulky. It is always well concealed among rubbish, fallen trees, and ferns. The eggs are some $.68 \times .51$, and have been found in this State as late as the 17th of July.

Five inches long, the male of this species has the upper parts of a fine olive-green; head, a fine slate-color; throat and breast, black, crossed by delicate concentric lines of slate, caused by a fine fringe of that color on the tips of the feathers, making the dark spot look something like black crape, whence the common name; the under parts, bright yellow; the female is similar, with the dark patch on the breast almost obliterated.*

Wintering in the farthest part of Central America, and even in South America, this bird goes north, in the migrations, to the British Provinces, becoming rare, however, in Nova Scotia. It breeds in New York, New England and northward, arriving in Western New York about the middle of May.

THE REDSTART.

A few rods off, in a thicker part of the woods, I hear a bird-song, which at this time of year greets me throughout every forest. It is the song of the Redstart (*Setophaga ruticilla*); and, except that it resembles that of the Yellow Warbler, I can compare it to no sound so well as to that of a circular tin-whistle with a hole through the center, which, when held between the lips and teeth and the breath is alternately drawn in and blown out, makes a noise with which every one is familiar. Simple as is this comparison, to my ear the song is decidedly pleasing. There is not a little

* The female of one pair of these birds, taken along with the nest by Mr. Bruce, has the *white eye-lids*, supposed to differentiate Macgillivray's Warbler of the Rocky Mountains and the Pacific Coast as a species, thus suggesting the propriety of regarding the latter as a mere variety of the former.

variety in the whistling tones, and the theme is always well modulated. Like all bird-songs, it contains immeasurably more than anything to which it can be likened.

A view of this bird is even more gratifying than his song. Something more than 5 inches long, the male is black, sides of the breast, flanks, patches in the wing, and more than the basal half of the tail feathers, except a few in the center, reddish-orange, or flame-color; under parts from the breast down, white. The female is olivaceous-slate, the markings being bright yellow where the male has the flame-color. Though resembling the Warblers in almost every particular, the bill of the Redstart, in its flat, triangular shape, with notch and hook at the end of the upper mandible and its surrounding bristles, is like that of the Flycatchers. Its habit, too, in taking food, suggests a similar relation.

Among the bright foliage of this luxuriant month, he is an object of uncommon beauty. How his glossy black sets off his fiery orange markings as he flits from point to point, spreading his tail with a jerking motion, and assuming a great variety of attitudes in rapid succession as he hunts his prey.

The sharp chipping notes, mixed in with the varied combinations of his song, remind me that on the 23d of May, about a week ago, I saw a female building her nest. As a rule among all species of birds, the construction of the nest is the work of the female. The male is the musician, the female the architect. How diligent was this little Redstart in the enterprise. Every few minutes she returned, her mouth full of materials, which she arranged in the most expert manner. The outside completed, she would pitch into the nest to adjust the lining, and turning round and round, pressing her breast against one side and manipulating the other with her feet, a wonderful symmetry and perfection

was secured in a short time. What human skill and patience could ever construct an object like this? Placed in a crotch near the top of a young tree or sapling, sometimes between nearly upright limbs and the trunk, anywhere from 6 to 20 feet high, it is compactly woven of fine fibrous materials, fitted together and often ornamented with vegetable down or cottony substances, not infrequently intermixed with the scales of leaf-buds, and lined with the finest of bark and grass-fibers.

I have before me a nest, externally much taller than usual, since it contains two Cow-bird's eggs, successively deposited, and built out of sight at different depths, something like the Yellow Warbler's nest described by Wilson. It also has several feathers, of some small bird's tail, stuck obliquely about half-way into the rim. The eggs, commonly 4, averaging about $.65 \times .50$, are white, more or less specked or spotted all over, but chiefly around the large end, with reddish-brown and lilac.

Wintering in the tropics, the Redstart arrives here on the first days of May. It is common in Eastern North America, generally breeding northward. I found it very common in the latitudes of Manitoulin Island and Nova Scotia.

THE INDIGO BIRD.

As I reach a more open part of the woods, seeming almost like a thicket, I get down on hands and knees in a black-berry tangle, to explore its mysteries; and at once espy a bird's nest, built in the declined stems, and sheltered by the thickly-matted tops. At the first glimpse of it, the sitting bird drops down out of sight and skulks off; and as there is so often no certainty in identifying a nest without the bird, I lie down in this miniature arbor, and await her return. Very soon I have a number of calls. A fine male of the

Mourning Warbler hops in very gracefully, scans me thoroughly, and leaves, without salutation, remarks upon the weather, or any expression of opinion whatever. Next comes a Yellow-backed Blue Warbler, equally curious and nervous in his movements, and perfectly reticent. Then a Song Sparrow, which, ever since my approach has been keeping up a constant racket, to the great alarm of the whole neighborhood, comes within a few feet of me, scolding and jerking his tail in a very unamiable manner. Like certain individuals of another species, he prolongs his call and his loquacity far beyond my pleasure. At length all is quiet, and the owner of the nest appears. It is the female Indigo Bird. A little smaller than a Canary, but almost precisely of the same form and structure, she is of a plain brown, lighter underneath, and dusky on the wings and tail. A fine voiced male, too, is singing near by, which is probably her mate, all unconscious of the peril of his family. His song is quite unique, and therefore easily recognized when once well noted. A sort of hurried warble, quite fluent, and yet seeming to stick in the throat a little, this melody is one of the most common in thickets, along the edges of forests, and about the borders of swamps. Its tones are musical, being loud at first, but growing faint at the last, as if the singer were exhausting his lungs; and it is as likely to be heard in the heat of noon as in the cool of the early morning.

The mature male, some 5.75 long, is blue, shading into dark indigo about the head, and tinged with greenish on the back; wings and tail black, edged with blue. This bird is generally finer in the bush, however, than in the hand. As the male requires several years to come to maturity, many are spotted, by the mixing in of dull brown or gray feathers, and so, on examination, appear quite shabby.

Thus assured as to its identity, I examine the nest. Several firm, dried leaves are hung hammock-like to the branches of a forked stem of the blackberry bush, then a sort of bedding of skeleton-leaves being added, the rather thick wall of the nest is of fine rootlets and dried grasses, closely laid, and the lining is of fine bark-fibers and horse-hair. Another nest in the vicinity is placed in a low bush, and is similarly made, except that it is heavily ornamented with the bud-scales and dried staminate blossoms of the beech, and made hoary with webby material of various kinds; the lining, too, is of fine dried grasses and a large quantity of black horse-hair. The eggs, three or four, some $.75 \times .55$ of an inch, are white, generally more or less translucent, and slightly tinged with blue—said to be sometimes specked—truly beautiful, especially when laid on a thick lining of black horse-hair. These birds are very uneasy and emit a loud and peculiar *chink* when the nest is approached. The species ranks with the Sparrows, and is called, in science, *Cyanospiza cyanea*. "Habitat, eastern Province of the United States—north to Canada and Maine, west to Kansas and Indian Territory, south through Texas to Mexico and Central America, where it winters. Breeds throughout most of its United States habitat, from Texas to Canada." (Coues.)

THE GREAT CRESTED FLYCATCHER.

From a group of tall trees, there comes a bird-voice, which I find most imperfectly described in the books, namely, that of the Great Crested Flycatcher (*Myiarchus crinitus*). Its most common note, *tweep*—though in a loud, spirited, whistling tone, given with a peculiar emphasis, and abruptly closed—is by no means a *harsh squeak*, as Wilson and Audubon say, but, as a mere note, is decidedly rich and

agreeable, calling forth a fine woodland echo, and impressing one with the animation, courage and bravery of the bird. Scarcely less agreeable is his rapidly uttered *twip*, *twip*, *twip*, *twip*, or even his guttural rattling call, equally characteristic. Perched in the rather open top of a tall elm, he appears to the best advantage in the full light of the morning sun. Some 9 inches long, with the strongest outline of that peculiar form which always marks the Flycatcher; standing in a spirited, upright attitude, with crest erected, his upper parts are a fine greenish-olive, throat and upper breast, ash; under parts sulphur-yellow; wings dusky, edged with greenish-white; tail dusky; outer edge of the primaries and under side of the tail, bright reddish-chestnut. His frequent jerk of the tail, as he sits, otherwise motionless, for some time on the branch, cutting an occasional semicircle in quest of his passing prey, as well as his structure and generally pugnacious disposition—all declare his character as a Flycatcher. This bird is so common in our forests that his notes seem almost identified with the summer landscape.

Observing that the greater part of the top of a tall elm in his vicinity is dead, I suspect a nest in some hollow of a broken branch, and putting on my climbers, ascend to the region of dead limbs. I have looked about me pretty thoroughly without success, and am about to descend, when I notice, some distance out from me, a broken limb about six inches in diameter, and stretching myself along its length, ten or twelve inches within its hollow end, I look into the nest, which contains 5 eggs. Jamming my hand down the passage with much difficulty, I secure the eggs one by one, packing them in leaves in the crown of my hat, and pocket the lining of the nest. So much, so good. Now I begin to descend, quite elated over my success. I get about half-

way down the perilous height, when lo, some unfriendly bough knocks off my hat, and with a very unpleasant sensation somewhere about my left side, I note the unlucky curves it makes adown the trunk. All my high satisfaction over my achievement is sinking to the soles of my boots, when, as good luck will have it, the hat closes up against the trunk, supported by an almost upright limb, thus making the entire contents secure. As suddenly my contentment comes back, and in a few moments, seated on *terra firma*, I examine my treasures. First the lining of the nest. Dried leaves, fibers of bark, wool, hair, feathers, the end of a squirrel's tail, and true to the never-failing custom of this bird, *cast-off snake's skin*. I found a nest in a hollow limb in an old orchard a few days since, with similar nest linings—the material, however, consisting largely of stubble, dried grasses, and pigs' bristles—the different linings placed in the nest from year to year, lying one on the other like so many sauce-plates in a pile, thus showing the number of successive years the place had been occupied. Every lining had the cast-off snake's skin. The eggs, generally 5, some $1.00 \times .75$, are strongly differentiated in color. The ground-color being dark cream or buff, scratched and brushed in every direction, but more particularly lengthwise, as if with a pen or fine brush, with a rich brown and lilac. Sometimes the markings are thicker on the large end, but generally they extend equally all over, not infrequently running into blotches.

Wintering on the Florida Keys and in the West Indies, this bird arrives in Western New York the first week in May. Common, more especially to the woods, occasionally residing in the orchard, it extends sparingly into New England, rarely beyond the Connecticut Valley, west to Eastern Kansas, northwestward to Cypress Hills in

British America, and breeds throughout the Eastern United States.

The local distribution of birds is very interesting. Each kind of locality has its own peculiar species. Around our residences, and in the orchard, we find a certain group—the Chipping Sparrow, the Purple Finch, the Kingbird, the Phœbe, the Eave and Barn Swallows. In the open field we have another group—the Meadow Lark, the Horned Lark, the Bay-winged Sparrow, the Bobolink; in the thickets, yet another group—the Field, or, more properly, the Bush Sparrow, the Indigo Bird, the Catbird, the Yellow Warbler; the forest birds—the Thrushes, the greater part of the Warblers and Flycatchers, and certain of the *Fringillidæ*—are quite strictly confined to their peculiar abodes; the swamps afford a large variety, nowhere else to be found, while, as every one knows, the water-birds are more or less attached, by regular laws of distribution, to ponds, streams, rivers, lakes, or to the ocean. In no way is the instinct of birds more certainly made known than in the selection of their local as well as their general habitat.

THE FIELD SPARROW.

As I approach a thicket—a *slashing*, as it is called here—being a rough piece of ground where the forest has been recently cut away and where the bushes have grown up, I hear the peculiar song of the Field or Bush Sparrow (*Spizella pusilla*). The notes may be pronounced *free-o, free-o, free-o, free-o, free, free, free, fru, fru*; the first four loud, well prolonged, and on a higher key, while the remaining notes run rapidly to a lower pitch, growing softer and weaker to the end, the last being barely perceptible at a short distance. The song is quite constantly repeated at

short intervals, and has a rather melancholy, but soothing and pleasing, effect, which sensitive natures readily recognize, and do not easily forget. It is the homely pensive poetry of the thicket—that line of land where the cultivated beauty and fertility of the fields end and the solitude and gloom of the forest begin. The bird is quite shy and retiring, and therefore but little known. A little smaller than the Chipping Sparrow, or some 5.00 inches long, and therefore the smallest of all our Sparrows, it has the usual colors and marking of that group over the back, lacking the bright chestnut on the crown, so peculiar to the Chipping and Tree Sparrows, and the striped crown and spotted or streaked breast, either or both of which are common to the rest of the Sparrows. It may therefore be readily identified.

The nest, usually placed low in a little bush, sometimes on the ground, is a frail, loose structure which one can look through, mostly of dried grasses and rootlets, lined with the finest of the grasses, fine shreds of bark from the grapevine, or horse-hair. The eggs, four or five, some $.70 \times .50$, are white, sometimes with a slight tinge of greenish or grayish, specked and spotted with a delicate, almost flesh-colored red—really pretty.

Wintering from the Carolinas southward, and breeding from the same point northward, these birds reach Western New York about the middle of April, and deposit their eggs late in May or early in June. Becoming rare already in Northern New England, it extends somewhat into the British Provinces.

THE BLACK-BILLED CUCKOO.

As I pass along, through the thickets, I hear the well-defined notes of the Black-billed Cuckoo—*chou, chou, chou,*

chou, and *cuckoo*, *koo, koo, koo, koo, koo*, and *cuck-chou-ou*, by no means musical, but quite pleasing as an odd variety. In a moment he glides by me. What a straightforward, regular, noiseless and graceful flight!

It is difficult to get a satisfactory view of this bird amidst our thick summer foliage. He is so noiseless as he, "still hiding, further onward woos you;" and if he stand stock-still, with head a little on one side, his color is so nearly like that of the bark of the undergrowth, or is such a compromise between that and the foliage, as to render him exceedingly obscure. No doubt he is very happy in his way, but he does indeed seem "as solitary and joyless as the most veritable anchorite."

I creep up to the bush in which he lit, and find a nest, if indeed so slight and rude a structure be worthy of the name—a few twigs laid criss-cross, bits of dried fern, and a few downy catkins of the willow on top—*how does* the bird get off and on, and keep the eggs and young on this bit of trash? The eggs, some $1.12 \times .83$, are elliptical, and of a beautiful clear or somewhat clouded light green. Arriving after the middle of May, this bird seems to begin incubation almost at once. The callow young are indeed queer-looking objects; their skin, which is black as soot, is sparsely set with white thread-like down. The eggs appear to be laid sometimes at very considerable intervals, so that the same nest may contain the young eggs partly incubated, and others fresh.

Nearly a foot in length, of which length the oblongly rounded tail constitutes nearly one-half, the upper parts are an elegant, glossy bronze-brown; tail feathers, except the two central, tipped with white, which joins the main color in a black margin; bill and feet black, eye-lids vermilion, under parts white. Male and female are alike. The young

have the feathers above, tipped with white, and the white underneath grayish. Feeding partly on small fruits, this species is chiefly insectivorous.

This Cuckoo (*Coccyzus erythrophthalmus*), abundant in this locality, is a great traveler. Breeding from the Southern States northward even to Labrador, though he may winter in Florida, he sometimes goes even to the valley of the Amazon. As a vagrant, he has been found in Europe.

THE YELLOW-BILLED CUCKOO.

The Yellow-billed Cuckoo (*Coccyzus americanus*) is about the size and form of the Black-billed; and, with the exception of its yellow under mandible, cinnamon edging on the wings and wholly black and white outer tail feathers, is precisely like it in color, habit and vocal performance. It is not very numerous here. Mr. Ringueberg occasionally finds the nest in the vicinity of Lockport, and almost every observer shoots one now and then. The nest is, if possible, even slighter than that of the former species, being, in one case at least, merely a "cotton rag, which was firmly caught in the thorns of a barberry bush." (Minot.) The eggs are a little longer, larger and lighter green; the notes are generally regarded as harsher. The intervals between the depositing of its several eggs are remarkable. Audubon once saw a nest, containing different grades, from young ones ready to fly to eggs perfectly fresh; and ascertained that *eleven* young cuckoos had been successfully raised from a single nest in the vicinity. It would seem that the Cuckoo is especially noisy during meteorological changes, hence it is called, quite commonly, the "Rain Crow."

The Yellow-bill is a more southern and western bird than the Black-bill, breeding throughout the United States, but becoming rare, or absent entirely, as we approach our north-

ern limits. It is also rare on the Pacific Coast. Though said to winter in Florida, it goes even to Buenos Ayres in its migrations, and has accidentally strayed to Europe.

Both our Cuckoos are somewhat nocturnal in their habits. I have heard the loud notes of the Black-bill in the orchard, a few rods from my study window, at a very late hour of the night. The American Cuckoo is not usually parasitic, after the manner of its European congener.

The Mangrove Cuckoo (*Coccyzus semiculus*), found in Florida and the West Indies, is a little smaller than the above species, and similar in its marking and coloration to the Yellow-billed Cuckoo, except that its lower mandible is pale orange-brown, and its outer tail feathers are not tipped with white.

THE NIGHT HAWK.

As I emerge from the thicket into the open pasture, a so-called Night Hawk (*Chordeiles virginianus*) flies up, almost from under my feet, and moving in an irregular, zigzag manner, alights lengthwise on the fence. In this near proximity, both in flight and in repose, he is a weird looking object. His odd way of perching lengthwise is supposed to be an accommodation to his feet and legs, which would seem too small and weak to support him crosswise. As he starts from the ground and darts this way and that, as if somewhat confused, the large, clear white markings of his wings and tail are very conspicuous, and sharply defined by the dark mottling of his general color. By no means abundant in this locality, the Night Hawk may be found from early in May till early in autumn, about the low grounds north of the Ridge. In Northern New England and in the British Provinces it is very abundant, and becomes a most conspicuous object in the summer landscape. Mr. Samuels reports it so numerous at a place in Maine,

called Wilson's Mills, that "in the space of every four or five rods, a female was sitting on her eggs." Indeed, one of the most vivid impressions received in many parts of that northern latitude, on a summer's evening, is that of the loud *peeping* and *booming* of vast numbers of these birds. This evening flight is really fine. The regular beat of the long pointed wings, now faster, now slower, the bird mounting a little higher, and uttering its characteristic *peep* with each accelerated beating of the wings, is somewhat like that of our smaller Hawks, the Sharp-shinned, for instance; while the graceful tipping of the body from side to side, as it moves in a continued series of curves, affords a still further resemblance. Notwithstanding this analogy to Hawks in flight, however, the Night Hawk in structural affinity is no Hawk at all, but a sort of crepuscular Swift, flying earlier indeed in cloudy weather, and sometimes even in the brightest sunshine, but generally retiring during all the fore and middle part of sunny days.

Its flight is generally rapid and high, sometimes seeming to be almost among the clouds, where its frequent motions in the capture of insects show how elevated a part, at least, of the entomological world is. The most characteristic act in the flight of the male is his loud and indescribable booming, as he drops head foremost from his more or less elevated position, and, with stiffened wings, the tips pointing downward, cuts a long, abrupt curve. This sound, which Wilson compared to "that produced by blowing strongly into the bunghole of an empty hogshead," he thought was caused "by the sudden expansion of his capacious mouth while passing through the air." Audubon thought it was somehow produced by the wings. The latter would seem to be the more probable conjecture, as one can always see a change in the wings as the noise is going on. The exact

manner of producing the sound, however, we shall never know till some ethereal personage can take his point of observation high in air, and, without alarming the bird, note exactly its method. The booming is mostly confined to the breeding season, though it is sometimes heard in autumn.

These birds do not confine themselves to insect-food obtained in the upper air, but also search the ground. Wilson shot them on the 14th of August, with their stomachs almost exclusively filled with crickets. From one of them he took "nearly a common snuff-box full of these insects, all seemingly fresh swallowed." I have also good evidence that in the more northern localities, they regale themselves on ripe currants.

Nine inches long, the Night Hawk is black or dusky above, variously mottled with brown and brownish-white, with narrow black and whitish rings below, the male having white markings in the wings and forked tail, and a rather large triangular or crescent-shaped white spot on the breast, the female having smaller white markings in the wings only, and a reddish mark on the breast.

The two eggs of the Night Hawk, placed on the ground in some open pasture or thicket—a burnt spot seems preferable, as harmonizing best with the color, alike of the eggs and of the bird without a nest—sometimes on the flat roof of a house in a city, are about $1.25 \times .88$, elliptical, the ground of grayish or creamy-white, being thickly specked and spotted all over with a greenish-brown and several shades of lilac. The eggs are generally laid early in June, but I have seen the young, not yet fully fledged, as late as July 21st, thus indicating, perhaps a second brood.

The summer range of this bird is from Central North America to Hudson's Bay, while its winter migrations may

extend to the West India Islands and Brazil. It does not winter within the Union.

THE WHIPPOORWILL.

The gorgeous hues of sunset have faded into the deep dusk of twilight. I have been listening to a grand concert at this close of day, in and around a large tract of woodland on these low grounds north of the Ridge. As the songs of Thrushes, Warblers and Finches die out, the stillness is broken by a loud call, commonly described as "*Whip-poor-will*," but which to my ear sounds more like the syllables, *chick-koo-rheè*. The call is rapidly and earnestly repeated a number of times, the first syllable, but more especially the last, being emphasized. The vocal performance is kept up at intervals during the night, and starts up afresh about day-break.

Strictly local in its distribution, and partial to swamps and low lands, the Whippoorwill (*Antrostomus vociferus*) must be numerous here, for I can detect its weird call in some half-dozen directions about the thicket, and in the edge of the woods which it skirts. I creep stealthily in this direction and that, as nearly as I can locate the sound, hoping to get a glimpse of this strange bird of the night, before daylight is entirely gone. I seem to hear him exactly in that red osier bush covered with its snowy blossoms, and strain my eyes to define his form, but in vain. I move up a little closer, but presently the sound ceases at that point, and starts up somewhere else. Thus I am tantalized, like one following the *will-o'-the-whisp*. I spend days in succession about this spot, but cannot get the first glimpse of the bird, nor any sound of it, except at night.

Nine inches and a half long, the Whippoorwill bears so strong a resemblance to the Night Hawk, that they were

once supposed to be the same. The difference is mainly as follows: The Whippoorwill is some half an inch longer, has a rounded tail, whereas that of the Night Hawk is forked, has a much longer and more pointed wing than the latter, and has a plentiful supply of long bristles protruding from the inside of the mouth. "It lays on the ground, in the woods, constructing no proper nest, and depositing only two eggs. These are elliptical, nearly or quite equal at both ends, about 1.25×0.85 , and are curiously scratched and mottled all over with brown surface markings and paler purplish-gray shell colors upon a whitish ground. The egg is quite variable in amount of intensity of coloration, some specimens being heavily marbled, while others appear as if faded or bleached, from indistinctness of the tracery." (Coues.)

This sly bird of the night inhabits Eastern North America generally up to 50° , wintering from the Gulf Coast southward, and breeding in most of its summer range.

Chuck-will's-widow (*Antrostomus carolinensis*) is a closely allied member, along with the Night Hawk and Whippoorwill, of the *Caprimulgidae* family, and is found in the Southern States generally. It is similar to its relatives just described in color and general appearance, but is nearly twice as large.

Our Night Hawk, Whippoorwill and Chuck-will's-widow, belong to the *Caprimulgidae* family, which, in its broadest sense, includes quite a variety of structural peculiarities and is represented throughout the world, particularly in South America; but, in the more restricted sense of the sub-family, *Caprimulginae*, is well represented by our two genera, *Antrostomus* and *Chordeiles*. It is this latter group, therefore, which we shall especially notice. As we have observed, they are, for the most part, creatures of the

twilight and of the night, and as such, to some extent, resemble the Owls; as in the size and shape of the head—the very diminutive and weak bill excepted—in the soft, loose texture, and sombre colors of the plumage, and in nocturnal habits; while zoologically, particularly in the shape of the wing and mouth, they are more closely allied to the Swifts. Thus combining crepuscular and nocturnal habits with great swiftness of flight, and a bat-like quickness in their evolutions, as also a most capacious mouth, extending to the sides of the head and in most cases thickly supplied with long, stiff bristles, these Night Swallows or Swifts are especially adapted, as they “quarter the air” in every direction, to the destruction of nocturnal insects. From an erroneous notion in respect to the habits of the European representative of this class of birds, the English call it “Goatsuckér,” in accordance with its old Latinized Greek name, *Caprimulgus*. The French, however, call it by a name, which means wind-swallower, and also by another, which means flying toad.

Thus from some fact or resemblance, fancied or real, the various objects in natural history are made to bear names, which, both in common and scientific nomenclature, signalize them, either truly or falsely, for many generations at least, and perhaps through all time.

THE CHIMNEY SWIFT.

Returning home near night, by way of the Ridge, just as a severe rain-storm is setting in, I come to the pass of Oak Orchard Creek. Here is a large stone building which was once a distillery. Around the top of the enormous brick chimney, which towers up from this building, is an immense cloud of many hundreds, perhaps thousands, of Chimney Swifts (*Chatura pelagica*). They are whirling

and gyrating in swift evolutions, the whole body moving in the same direction like a feathered whirlpool, their wings beating with astonishing rapidity, and the volume of their sharp twitter being almost deafening. As the black cloud keeps whirling, becoming more dense as it nears the chimney-top, every few minutes a section of the great host drops into it. I watch them till by far the greater number have thus disappeared. This is a common scene about the old distillery, and may occur from the time of the arrival of these birds, about the last of April or the first of May, till the time of their departure in September. Thinking that this chimney must be a breeding place, I kept watch of it from an opening below, which gave a full view of the whole interior, but not a nest could I at any time detect. Evidently it was only a grand place of rendezvous, such as these birds occasionally discover in various parts of our country. Both Wilson and Audubon cite instances of immense numbers, even millions, resorting to some large hollow tree as a lodging place, and issuing from it at the break of day, in clouds, making a noise like thunder.

This Swift was formerly called a Swallow, on account of certain general resemblances. In its more important details of affinity, however, it is now regarded by ornithologists as coming between the Whippoorwills, and the Hummingbirds. This arrangement in classification may show the general reader how wide and deep are the gaps between some of the families of our birds.

As the chimney of the old distillery continues to be the rendezvous of the Swifts throughout the season, although in diminished numbers during the time of nidification, I conclude that it is a place of general resort for the males, and also, perhaps, for such females as are not engaged in reproduction. This view, I find, accords with that of ornithologists in general.

In the uncultivated condition of the country, this bird placed its nest in a hollow tree, but, being one of those birds which have taken advantage of the conveniences of civilization, it now resorts to the chimney, where, though perhaps somewhat discommoded by soot and occasionally by smoke, it is the freest possibly from all its enemies. Look in, through the stove-pipe hole of that large, old-fashioned chimney, and behold that cute little basket of a nest! About the size of one-half of an ordinary sauce-dish, it seems tipped up against its sooty wall, and holds long, translucent white eggs (.80 x .48), of which the fresh yolks appear most elegant through the shell, and close up to it. How pretty they look on those freshly-broken twigs, severed from the tree by the bird in flight, and glued together with saliva! Scarcely could they have a finer setting than is afforded by that exquisite bit of rustic architecture, reminding us, in the midst of our artificial civilization, of the free elegance of primeval life.

Never shall I forget how I was startled from a sound sleep, one black night of a fearful thunder-storm, by a nest of full-grown Swifts which had fallen to the bottom of a bracket-chimney, and were squalling and beating their wings against the wall-paper, stretched like a drum-head across a stove-pipe hole. It sounded like a flock of winged imps in the central space of the room.

"The glue-like substance," constituting so important a part in the nest-structure, is a viscid matter secreted by glands in each side of the head of the bird and mixed with its saliva. This is a common product of the Swifts, and is especially noted in the case of the edible nest of the Sea Swallow of the Malay archipelago. "It gathers from the coral rocks of the sea a glutinous weed or marine *fuscus*, which it swallows and afterward disgorges, and then applies this

vomit with its plastic bill to the sides of deep caverns, both inland and on the seacoast, to form its nest. When complete the nest is a hollow hemisphere, of the dimensions of an ordinary coffee-cup. When fresh made it is of waxy whiteness, and is then esteemed most valuable." This insipid thing of Chinese soups is gathered, at a fearful peril of life, from the caves of the coast of India, and sold as a government monopoly, sometimes at the enormous price of \$35 per pound, or even twice its weight in silver.

But to return from this digression; wherever I go, one of the most distinctive associations of the early days of spring is the Chimney Swift. Flying so high, that he appears like one of the smallest of birds, the short, quick beat of his wings and his sharp *tsip, tsip, tsip, tsip*, so rapidly uttered, readily distinguish him. On handling him, you observe that his tail, which appeared so short when in flight, has the quill of each feather extended beyond the web, in the form of a sharp spine. This aids him in alighting on the wall. The Swifts are supposed to fly at the rate of a thousand miles in twenty-four hours. They seem to spend nearly the entire day on the wing, and when caring for their young, often spend a great part of the night in bringing them food.

Some 5.35 long, the Chimney Swift is brownish-black, lighter on the throat. Wintering south of the United States, and residing in summer throughout Eastern North America from the Southern States northward, it reaches Western New York the first week in May, and leaves early in October.

LAKE VIEW.

Oak Orchard Creek is the principal water-course of Orleans County, N. Y. Rising in Tonawanda Swamp, which is partly in Genesee County, it makes a curve of

nearly a half circle in the southwestern part of Orleans County, and enters Lake Ontario a little east of the center of the shore line which bounds the county on the north. The stream is beautiful, especially at its mouth, which is called Lake View. A drive along its gracefully curving banks, from the Ridge to the lake, is a never-failing source of pleasure. Some forty or fifty feet high, these banks may be abrupt walls of dark-red shaly sand-stone, not infrequently streaked with bright green, sometimes entirely bare, but more frequently ornamented with a great variety of beautiful vines and shrubbery; or they may be a fine system of river-terraces, showing the different breadths of the stream at certain periods of the later ages of geological history.

THE LONG-BILLED MARSH WREN.

In the sedges and cat-tails, which border the placid current as it approaches the lake, are the breeding haunts of quite a group of birds which frequent the water and its vicinity in this locality. As one glides along these waters in a light skiff, on a fine June morning, admiring the trees, shrubs, vines and wild flowers which adorn the graceful curves of the bluff on either side, from out the sedges and cat-tails there comes the sharp metallic twitter of the Long-billed Marsh Wren (*Telmatodytes palustris*). You strain your eyes to get a glimpse of the utterer of these weird notes, but he is completely concealed in the tall, thick growths, and dodges about so mysteriously that you can scarcely keep the direction of the sounds. There! Now he is in plain sight, clinging sidewise to that huge cat-tail overtopped by its candle-shaped blossom. What a wee bit of a bird he is, seeming scarcely larger than the end of one's thumb, though, from the tip of the bill to the extremity of the tail, he measures some five inches or more; but the head is so

thrown up, and the tail so thrust forward, that he assumes almost the shape of an irregular ring or triangle, and so quite deceives one as to the length of his slender body. Brown above, shading almost into black on the crown and middle of the back; tail, barred; under parts, line over the eye, and streaks on the back, white; sides, brownish—he bears a strong resemblance to the rest of the Wrens, but is readily distinguishable by his white breast. His flight is short, and every motion is exceedingly quick and nervous.

In the tall bleached sedges of the previous year, this Wren is very easily seen in May or early in June. Then he is especially lively, hanging sidewise to the smooth perpendicular culms, or grasping two opposite ones, one in each wiry foot, his legs stretched apart in a horizontal line; or tossing himself up several feet into the air, with head and tail up, he will drop down, with a light and graceful flutter, making his very best attempt at a song as he thus describes an abrupt curve. That song begins with a rather harsh screeching note, followed by a rattling twitter, and ends in a note very much like that with which it began.

Pulling the boat somewhat into the sedges, we wade among them half way to the knees in water. Here is the nest! About the size of a common cocanut, it is woven and interlaced by the dried and discolored leaves of the sedges and marsh-grass, intermixed with vegetable down, and sometimes with an abundance of green moss, so as to make the walls quite thick and firm, and is lined with finer materials—perhaps the down from a vacated Duck's nest in the neighborhood, or the feathers of a Coot devoured by the Marsh Hawk; it has a hole in the side, so beset with down as almost to close it up—the artistic structure being hung to the green or dried sedges or marsh-grass only a few inches, or sometimes three or four feet from the water. These

nests are often found in large numbers in the same locality, the greater part of them being unoccupied. "This has occasioned the surmise that more nests are built than are actually used; the idea being that the nervous, energetic little creatures keep on building, while the females are incubating, to amuse themselves, or because they have nothing particular to do and cannot keep still." (Coues.) It has been well suggested, however, that the durability of the old nests may largely account for the many unoccupied tenements. The eggs, some five or six, about $.60 \times .45$, are a reddish or chocolate-brown, with still darker brown spots and specks clouded and wreathed around the large end. The eggs are laid late in May or early in June, and again late in July.

The food of these birds consists of such insects as inhabit their aquatic haunts, and "diminutive mollusks." "Wintering along our southern borders and southward," their breeding habitat is from the Southern States to Massachusetts. They are not reported from Northern New England, nor did I see any in the many marshes of the Manitoulin Islands. Reaching Western New York in May, they leave late in September or in October.

THE BITTERN.

Standing still in the border of the sedges, and surveying a large space of lily-pods, I spy a Bittern (*Botaurus minor*). Standing stock-still in a clump of cat-tails, with body, head and neck in a nearly perpendicular position, he is almost as straight as a stake, and perfectly motionless. In this attitude he continues for many minutes, no doubt enjoying one of those contemplative turns of mind, or profound reveries, for which his shady and silent ways have given him such a reputation. His present attitude is scarcely more common

to him, however, than a certain other in which he is often figured in portraits—that of standing on one foot, the other being drawn up under him, and his neck so bent or folded that his head rests upon his breast, his eyes being nearly closed and his whole air that of drowsy thoughtfulness. Tired of my own position, and finding that of the Bittern rather tedious, I clap my hands, when, with a sudden spring and a hoarse *haurk*, he rises to a slow lumbering flight, his wings beating heavily and his long legs dangling awkwardly behind. Flapping along just above the cat-tails, he drops down out of sight a few rods off. When he rises high, his flight is quick and graceful, and bears quite a resemblance to that of a Hawk. His form is that of the Heron tribe, but his color is peculiar to himself and his near European relative. About 27 inches long and about 45 in extent of wings, the male a little larger than the female, the top of the head is brown, the long, loose feathers falling from the back of the head, over the upper part of the neck, being yellowish-brown; throat, white with a light brown streak through the center; fore-neck, loose feathers on the breast, and under parts, broadly streaked with reddish and yellowish-brown; sides of the neck black; back, rich brown mixed with black, and streaked with yellowish and grayish; wings, rich dark brown, with coverts of light yellowish-brown; the whole upper parts being delicately penciled with darker shades; eyes, yellow. The general impression of the bird, upon the eye, is that of a yellowish-brown. The colors are deeper in autumn than in spring, being enriched with reddish-brown shades. The young lack the deep black on the sides of the neck. At any time the Bittern is very beautiful. Shy and solitary, dwelling in reedy marshes and their vicinity, he feeds on the smaller mollusks and crustaceans, frogs, lizards, little fishes and snakes, and such insects as frequent

his watery abodes. Like the Herons in general, he prefers the twilight and the night for his excursions, but may be seen abroad at any time of day.

Though by no means as noisy as his European congener, in the breeding season, especially morning and evening, the male has a peculiar and startling vocal performance, which once heard can never be mistaken. It may be at least suggested by its names, *Dunk-a-doo* or *Stake-driver*, the former word *imitating* the note, the latter *naming an act which resembles it in sound*. Nuttall, the great interpreter of bird notes, has rendered it by the syllables, *pump-au-gah*. I can recall it by the syllables, *ponk-ah-gong*, or *kunk-ah-whulnk*. On St. Clair Flats, where this bird breeds in great numbers, these weird notes, sounding in every direction, are characteristic of the evenings in spring and early summer. The stake-driving begins about three or four o'clock in the afternoon, continues on into the night, and the notes occur again during the early hours of the morning.

As to the nidification of the Bittern, our early ornithologists, even Nuttall and Audubon, knew little or nothing, and the latest authorities are by no means unanimous or satisfactory; some affirming that it breeds in communities, others that it nests singly, a pair to a bog; some that its nest is in a bush or a tree, or in a tussock of grass; others that the nest is always on the ground; while others still assert that it lays its eggs on the ground without any nest whatever. I took a nest the 7th of June, 1881, on Lacloche Island in the northern part of Georgian Bay. A few rods from the water, on a rather rocky rise of ground, and in the edge of a grove of small white birches, it was placed on the ground among weeds and ferns, and made of small sticks, coarse weed-stalks and dried leaves; raised about two inches from the ground and 12-14 inches across, it was perfectly flat and contained

three brownish-drab eggs, measuring $1.90-2.00 \times 1.38-1.40$, pointed ovate; incubation being well begun. I found no other nests or birds of the kind in the vicinity. In my recent studies on St. Clair Flats, where the nests were very common, I found some nests built of the dried leaves of the cat-tails, placed on the water and anchored among the sedges, after the manner of the Coots, while others consisted merely of the tops of the marsh-grass matted and flattened over the water, so slight and flat that one wondered how they could retain the eggs and sustain the weight of the bird. The nests were not found in community. The eggs, generally four, sometimes five, some 1.95×1.39 , are a brownish or greenish-drab, generally quite dark, and always distinguishable from any other egg. The nest is well hidden in the tall grass or sedges, and the bird, sitting with her bill pointing almost straight up, is loth to rise, sometimes almost allowing one to touch her. The long down, in patches on the young, is brownish-yellow, obscurely streaked with brown, and as it is quite long and plumose, standing straight up on the head and back, the little creatures are odd enough.

The Bittern ranges over all North America to 58° or 60° , breeding from the Middle States northward, and wintering in the Southern States and beyond. Dr. Coues found it at Washington in January. It breeds abundantly in some parts of Maine. Reaching New York and Massachusetts in April, it leaves in October. It is a good deal smaller than the European Bittern, but bears quite a general resemblance to it in color.

THE LEAST BITTERN.

I continue my rambles among the sedges. What is that yonder, climbing up the cat-tails after the manner of a Rail? Having captured a moth, it settles back into the

shallow water again, and walks along sedately, throwing its head forward at each step "as if about to thrust its sharp bill into some substance." It is a Least Bittern (*Ardetta exilis*). About a foot long or more, wings only 4-5 inches, the male, which is slightly crested, has the crown and back glossy greenish-black; hind neck, greater wing-coverts, and outer webs of secondaries, bright chestnut; lesser wing-coverts and sides of the neck, brownish-yellow; fore-neck and under parts, light-yellow or yellowish-white; eyes, bill, and feet, yellow. The female has the crown and back brown and the fore neck and breast streaked with brown and brownish-yellow. Otherwise, she is like the male. Like the Common Bittern, they have long feathers on the breast, but do not have the long, narrow feathers on the back, after the manner of the Herons. This is the diminutive or pigmy of its race, having indeed the form of a Heron, but to some extent the habits of a Rail. So narrowly can it compress its body, that it has been made to walk between two books set on edge, only an inch apart. On startling it I see that its flight is similar to that of the Common Bittern, and like the Herons in general, when it rises high for a long pull, it folds its neck upon its breast and stretches its long legs out straight behind. Like the rest of the Herons, too, its note is a sort of *qua*, and its food such reptiles, insects and fishes as are found in its habitat and come within its capacity. It breeds rather commonly in the marshes of this locality, generally nesting on some pile of matted sedges, but sometimes tying its nest in a bush or clump of cat-tails or sedges, some 18 inches or more from the ground. The nest is flat-tish and rather roughly laid of sedges, dried grasses and debris, containing from three to five eggs, elliptical, about 1.22×1.93 , white, delicately tinged with green. The eggs may be found late in May or early in June, and there is very

good evidence that in some cases, at least, a second brood occurs about midsummer.

Resident in the extreme Southern States, this bird breeds from thence northward.

THE VIRGINIA RAIL.

Reaching a new territory of the sedges, I hear a sharp, rough note, *kreck-kreck-kreck-kreck-kreck*, which I recognize as that of the Virginia Rail (*Rallus virginianus*). Squatting down in the thick growth, and remaining perfectly still, they soon come within a few feet of me. There are two, a male and a female. Turning the head in various positions, they eye me very closely, but do not seem at all afraid. I have a good opportunity to study not only their elegant form and colors, but also their attitudes. They are 10 inches long, and 14 from tip to tip of the wings; the rather long bill is red shaded with black; cheeks and line over the eye, ash; throat white; crown black; whole upper parts black streaked with brown; a chestnut spot on the wings; whole under parts rich orange brown; flanks and vent black, delicately marked with white. The female is a little smaller than the male, and not quite so brightly colored. As is the case with the Rails generally, the young are black when in the down. This species is readily distinguished from the Common Rail, not only by its color, but also by its long and slender bill. Arriving here late in April, and extending northward into the British Provinces, this bird remains with us in considerable numbers until October, breeding quite commonly about our marshes. The nest, placed on a matted tussock of sedges, is neatly laid, and well edged up, containing some 8 or 10 eggs, 1.25 X .95, creamy white or dark cream, specked and spotted all over, but more especially at the larger end, with reddish-brown and lilac.

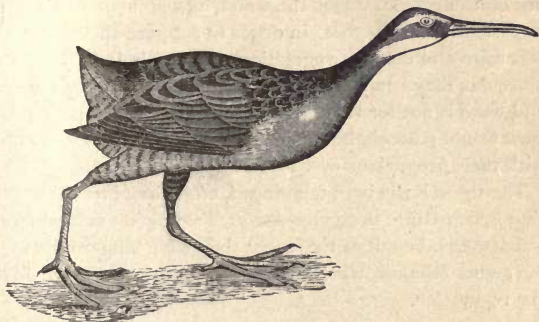
THE KING RAIL.

The Virginia Rail is indeed simply the "miniature" of the beautiful King Rail (*Rallus elegans*), which is some sixteen or more inches in length, and is a rather southern species, reaching only the Middle States to the eastward, but extending even to Washington Territory on the Pacific.

I have taken it in a marsh on the southern border of Lake Ontario. It is found on the south side of Lake Erie and along Niagara River, and is very abundant on St. Clair Flats. It is a most elegant bird, whose size, rich colors and stately movements may well designate him as king of his kind. The coloring may be identified by that of the Virginia Rail, described above. The voice, too, is similar, ordinarily sounding like *geck, geck, geck, geck*, being especially audible at night, about the ponds and sluggish streams around which the bird takes up its abode. When alarmed or its nest is disturbed, it emits a loud cry, like *cairk, cairk, cairk*. The nest of this species is elegant. Placed over the water in a large tuft of marsh-grass, the bottom in the water, the top some eight inches above it, and eight or ten inches in external diameter, the whole is neatly laid of dried grass well edged up, and gracefully sheltered and concealed by the drooping tops of the tall marsh-grasses to which it is fastened.

The eggs, ten or eleven, some 1.62×1.20 , are roundish ovate, of a rich roseate cream, sparingly and very distinctly spotted and specked with reddish-brown and lilac. The nest is easily identified, as the bird sits closely. The eggs seem a little larger, brighter, and more ovate than those of its marine congener, the Clapper Rail. This species is very shy. Though one may hear its sharp notes almost constantly from its reedy coverts, it may require much patient watching to get a good view of it.

The King Rail, again, is very similar to the Clapper Rail (*Rallus crepitans*, or *longirostris*), simply a little larger and



THE CLAPPER RAIL.

brighter, and more beautiful in color. The notorious noise of the latter, so common to marshes of the Atlantic States to New York, is very much like that of the guinea-fowl, while its nidification is similar to that of the *virginianus* and *elegans*. The Clapper Rail is not only noticeably smaller than the King Rail, but the upper parts have a more ashy and colder coloring, while the lower parts are duller and more yellowish.

How perfect is the law of adaptation in nature, and how wonderful are family traits. The natural world is not a medley, but a system, in which families and orders are grouped in beautiful consistency of place, structure and habit. Among the sedges and cat-tails of our marshes is this strongly marked family of birds, the Rails; with wings apparently too short and weak for extended flight, and yet performing wonders in the time of migration; not only with a body proportioned and balanced for running, but capable of compression to the narrowness of a wedge, in order

to pass readily through the thick growths of the marshes, as also to aid them, perhaps, in their peculiar habit of walking on the bottom under the water in search of food; with large feet and long toes, in order to support their steps on soft mire and floating vegetation, and with legs long and muscular they run like very witches in their reedy maizes, and were it not for their sharp cackling voices, their presence would scarcely be detected, though the marshes swarm with their gregarious multitudes.

The three Rails here mentioned, *virginianus*, *crepitans* and *elegans*, constitute the genus *Rallus*; feeding on animal food, which they take out of the water, they have longer bills than the genus *Porzana*, which feeds more particularly on floating vegetation.

THE COMMON GALLINULE.

Rowing further up stream to another tract of sedges, I am attracted by a spirited cackle something like that of the guinea-fowl, *cray, cray, cray, cray*; and *cow, cow, cow, cow, cow*, the first syllable of each strain drawn out, and the rest quite rapid, while occasionally there is something like a musical shake on a reed instrument, decidedly pleasing. Concealing myself as much as possible, I strain my eyes in the direction of the sound, and presently see the Common Gallinule (*Gallenula galleata*) leading about her newly-hatched brood. The water is about a foot deep, and they are all swimming around in the more open places among the sedges. Some 12-15 inches long, and so nearly the shape of the Rails as to be placed in the same family with them; head, neck and under parts, grayish-black; upper parts, black tinged with olive; bill and frontal piece extending up from the bill, bright red—this bird looks like a small dark-colored hen. The newly hatched

young might easily be mistaken for black chickens, both from their appearance and from their notes. A more careful examination of the Gallinule reveals a little white on the under tail-coverts and on the edges of the wings and flanks, while the greenish feet and legs are ornamented by a red ring, just below the feathers of the thigh; and the toes are margined by a membrane, more or less lobed, somewhat after the manner of the Grebes and Phalaropes. As to food and general habit, this bird is very similar to the Rails, while its color, frontal plate, and lobed toes clearly differentiate it.

A little later in the day, as I approach a long reach of lily-pods surrounded by sedges, I discover a pair of Gallinules on a log partially out of water. They are stationed one on each end of the log, with nine little black chicks strung along between them; and these latter the parents are busily feeding with something which they take from the water. A beautiful sight is this happy family in their own quiet haunts! Without any malicious purpose, but simply to get nearer, I get into my boat and row rapidly toward them. As I press closely upon them the parents fly for safety, and the little ones, just hatched, leave the log, run for some distance on the lily-pods, then take to swimming, and, finally, as my boat glides among them, they all disappear as suddenly as young Partridges in the woods. Backing out, I quit the spot as soon as possible, and retaking my point of observation, watch the anxious parents return with coaxing notes and gather together the scattered family, which, readily responding to the call, come peeping from their hiding-places in different directions.

These birds, which swim, dive or run upon the lily-pods with equal ease, are to be associated with still waters, and with that queen of our ponds and lakes, the sweet-

scented water-nymph. No infant of a royal household ever sported under a more beautiful canopy than is found by these Gallinule-chicks, beneath the snowy wreath of odorous petals and central crown of gold, standing like an elegant sun-shade in that quiet nook which mirrors the bluff and the surrounding landscape.

The nest of the Common Gallinule is usually built on shallow water, among the sedges and marsh-grass to which it is fastened. About 10 or 12 inches in diameter, and continued 6 or 8 inches above the surface of the water, often with an inclination on one side, like a platform, for walking up from the water, this elegant raft, made of the leaves of cat-tails, sedges and marsh-grass, is neatly hollowed like a saucer on the top, and contains 9-14 eggs, $1.75 \times 1.20 - 1.85 \times 1.25$, more or less tinged with light-brown and specked and spotted, especially around the large end, with a shade of reddish-brown, often resembling iron-rust.

Arriving here, from the region of the Gulf Coast, in April, they remain until October, breeding abundantly in suitable places. They are very abundant on St. Clair Flats, and on Fighting Island, south of Detroit, and are common residents in Western New York; but I do not think they extend regularly far north of the south shores of the lower Great Lakes. In Maine and the Maritime Provinces, they are simply accidental.

In the South Atlantic and Gulf States, but sometimes straggling even to New Brunswick, is the beautiful Purple Gallinule (*Porphyrio martinica*), described by Dr. Coues as follows: "Head, neck and under parts beautiful purplish-blue, blackening on the belly, the crissum white; above, olivaceous-green, the cervix and wing coverts tinted with blue; frontal shield, blue; bill, red, tipped with yellow; legs, yellowish. Young, with the head, neck and lower

back brownish, the under parts mostly white, mixed with ochrey. Length, 10-12 inches." The habits of this elegant bird are, without doubt, similar to those of its plainer relative just described.

THE COOT.

Somewhat larger, but very similar to the Gallinules in structure and habit, and strikingly like the Common Gallinule in color, is the Coot (*Fulica americana*). In color it differs from the Common Gallinule, however, in being blacker about the head and neck, and lacking the olivaceous tint on the back. Its bill, too, is white or light flesh-color, with a tendency to a dark or dusky ring near the tip; and the tibia lacks the red ring. Quite common in the migrations, it arrives here in April, and returns south in October.* Its breeding habitat is from Northern New England, the Great Lakes and corresponding latitudes, northward. It breeds in such abundance as to be the characteristic bird on St. Clair Flats, where they are as common as hens in a farm-yard. The nest is in reedy pools or shallow water about rivers, lakes and ponds, composed of dried grasses and sedges, after the manner of the Rails and Gallinules, sometimes tied to the tall clumps of sedges, and yet resting on a mass of floating debris; sometimes resting on the dry ground near their watery abodes. On St. Clair Flats it is a floating nest anchored to the cat-tails and sedges, resembling that of the Common Gallinule, but generally placed further out in the flooded marshes, toward the channels and the lake. Some 12 inches in external diameter and rising about 8 inches above the water, it is almost invariably built of the dried and bleached leaves of the cat-tail; the saucer-shaped interior being often lined with fine

* It is said to appear in the Mississippi in thousands during the migrations, and to breed in immense numbers in Northern Minnesota and Dakota.

marsh-grass. Like that of the Gallinule, the nest often has a gradual inclination on one side, forming a convenience for the bird to enter from the water. So free is the motion of this nest, that it may rise and fall with the changes of water-level, or rock in the storm with perfect safety. The eggs, some 9-14, 1.87×1.27 - 2.00×1.30 , are slightly tinged with brown, being very minutely specked and spotted all over with black or dark brown, and so nearly the color of the bleached material on which they are laid, as scarcely to be discernible at any considerable distance. The bird does not sit very closely, but running on the debris or water for a few feet, takes wing with a peculiar splatter, never rising high or flying far. When swimming, the Coot will often allow an approach within shot-range, then starting on a run on the water, it will rise into the air gradually with a spitting, splattering noise, which soon becomes very familiar and distinguishable to the ear. Often shaking the large lobed feet when clear of the water, it flies with the bill pointing down and the feet bending upward, its broad wings differing much from those of the Ducks; and its near splash into the water being about as peculiar to itself as is its noise on rising. Very properly do the western hunters call this bird the "Splatterer." When the black clouds of a near thunder-storm are overhead, his white bill, in front of its black head, becomes very conspicuous, fairly gleaming for whiteness. It is decidedly a noisy bird, its *coo-coo-coo-coo-coo* being heard both day and night, the first note being prolonged on a much higher key, while the rest are somewhat accelerated. It will often *squack* similar to a Duck, and has other notes too unique and difficult of description to be given here. The Coot is quite playful on the water, and when the male stretches his neck forward, partly elevates his wings like the Swan, and spreads his

tail, showing the white underneath, he is quite a beauty, no doubt, in the eyes of the female.

In walking, and often in swimming, its head is moved backward and forward like that of the Common Hen, so that it frequently appears, while swimming, as if walking in the water. The young are black, with a tinge of rust-red about the head and neck.

As the food of this bird is similar to that of the Rails and the more edible Ducks, it is in fair demand for the table. Dall reports it from Alaska, and Reinhardt from Greenland, while its winter habitat is in the Southern States, and may extend to the West Indies and Central America. South America has a closely-allied species.

CHAPTER XVIII.

GEORGIAN BAY.

GEORGIAN Bay lies northeast of Lake Huron, and has extensive communication with it between Great Manitoulin Island and Cape Hurd, as also about the mouth of St. Mary's River to the north. This bay is nearly as large as Lake Ontario, and contains islands almost innumerable, Great Manitoulin, some eighty miles long, leading in size, and the rest presenting every variety of extent down to mere rocky shoals. Having pitched my tent at Little Current, a village and steamboat landing on a northeastern point of Great Manitoulin, I make excursions in a small boat to various points of interest in the vicinity, to identify the plants and to note the fossils in the lower silurian rocks of these islands, but more particularly to study the nidification of the birds in the locality. Fossils are abundant, and there is such a variety of wild flowers, that many of the islands appear like immense flower gardens, very many of the plants being different from those of Western New York.

THE GOOSANDER.

Here I find nearly all the Sparrows, breeding, especially the White-throat; the Thrushes are very well represented; our beautiful family of Warblers is varied and numerous; both the Ruffed Grouse and the Spruce Partridge breed here; the Eagle's nest is not uncommon; and some of the

Gulls and Terns breed in immense numbers. I am disappointed, however, in respect to the Ducks. Excepting the Dusky Duck, very few kinds spend the summer on the bay. Our three kinds of Merganser breed here, however, the Goosander (*Mergus merganser*), quite commonly. During this month of June there is scarcely a day in which the conspicuous female does not fly out from some nook or point as the boat passes; and occasionally a group of males are seen, which, as in the case of the Ducks proper, leave the female after incubation commences, and spend their time in small flocks in the most leisurely manner. In a very few cases male and female are surprised together. Probably these are instances in which incubation has not yet begun, or, some accident having befallen the sitting female, she has managed to recall her mate preparatory to a new litter of eggs.

The male of this species, about 24 inches long, has the slightly crested head and the upper half of the neck glossy green; back, tertiaries and primaries, black; the rest of the wing white, with a black bar nearly across the coverts, and the secondaries edged with black; lower back, beautifully penciled gray; tail ashy; lower neck and under parts white, the latter delicately and richly tinged with salmon; bill, iris and feet, bright red. The female is a little smaller, has the more crested head and upper half of the neck, a light chestnut red; upper parts generally ashy gray, with less white in the wing; under parts resembling the male, but with a lighter salmon. As she flies, the red head and the white in the wings are especially noticeable.

In nidification, the Goosander seems to have a partiality for small islands, of which Georgian Bay and the St. Lawrence River, both favorite breeding places of this species, are so full. The nest, sometimes on the ground among the

rushes or sedges, and near the water, is rather bulky, made of dried weeds and grasses, finished with fibrous roots, and lined with the bird's own soft down.

In the Georgian Bay region, as also throughout Canada, and I think also in New England, the Goosander generally breeds in holes in trees, after the manner of the Wood Duck and the Hooded Merganser. In Norway and Sweden, the fact that this species breeds in the above manner is well established. Having been misled by Audubon's statement, implying that its nest is invariably on the ground, I lost much time in my earlier searches for it.

The eggs, generally 7 or 8, some 3.00×2.00 , are oval, smooth, and of a rich cream color. As in the eggs of all the Mergansers, and also those of the Ducks, the smooth finish and clear creamy tint are strongly characteristic. As soon as the young are hatched they are led to the water, as is the case with all the swimming birds. They are an elegant little flock, having the exact colors of the female—chestnut head and ashen gray upper parts—while yet in their softest down. How gracefully they swim at once, and dive like little witches. When they are a few weeks old it will puzzle any boatman to capture them. Nothing can surpass the assiduity of the mother bird in caring for them. How gently she leads and feeds them, teaching them as soon as possible to secure their own food.

Migrating in small flocks, as the winter approaches, the Goosanders, Sheldrakes or Saw-bills, for they are known by all these names, spread throughout the Union, many, however, going just far enough south to secure open places in the streams for feeding. Here they will come from time to time during the coldest weather, and take their repast, sometimes showing but little of that fear of man so characteristic of the swimming birds in general. The bright red of their feet

and bills is suggestive of suffering cold, amidst the snow and ice, but their feet and legs contain no carneous or fleshy substance, only white, bloodless tendons, nearly void of feeling; so this color, reminding one of chilblained hands, is only a delusion. The best cow-hide boots and woolen stockings could scarcely make our feet more comfortable than are those of a Goosander on the coldest winter day, while his closely imbricated feathers, with a heavy coat of down at base and well oiled at the surface, far surpassing any suit of rubber, keep out every drop of water. At this time of year male and female are generally seen together, though it is not always easy to distinguish the latter, as it takes the male some two years to reach the final colors of his sex. In the early spring, flocks consisting entirely of the old or mature males may be seen about our lakes and streams. They are then probably on their way from the south, and, as is common with many other birds in the migrations, are preceding the females. The bright salmon of their under parts gives them almost a rosy appearance as they rise from the water amidst snow-banks and floating ice. About this time, however, many may be seen in single pairs, the sexes having, for the most part, chosen partners for the season.

Though the Goosander can walk and run well on land, his home is on the water. Here, as an expert diver, he procures his food, of small fishes, little mollusks and crustaceans, and frogs, of which he devours great quantities. For capturing fishes, which he raises out of the water and swallows head foremost, the sharply and backwardly serrated edges of his bill are particularly adapted. This bird is fond of plunging beneath rushing currents for its food, and should it encounter a raft of floating rubbish or an ice-cake, it will readily pass underneath it. It swims so deeply as to afford the gunner but a small mark, and dives so

quickly at the snap or flash of his gun, that he stands but a small chance of killing it.

On being surprised, the Goosander may rise directly out of the water, but more commonly pats the surface with his feet for some yards, and then rises to windward. A whole flock, thus rising from some foaming current, affords a spirited scene. Once on the wing, the flight is straight, strong and rapid.

Though Richardson reported the Goosander as abundant in the fur countries, Audubon did not find it in Labrador or Newfoundland, where its congener, the Red-breast, breeds in abundance. Though it is common alike to the salt and fresh waters of North America, Europe and Asia, never look for it in turbid water. Its voice, which is simply a hoarse croak, is rarely to be heard except from the female as she rises from her nest on being surprised, or seeks to extricate her young from some sudden danger.

THE HOODED MERGANSER.

During this month of June, I occasionally see the elegant Hooded Merganser (*Mergus cucullatus*) on the more open parts of this northern extremity of the bay. Here it is so exceedingly shy that I am obliged to study it in the distance, with the aid of a glass. What an elegant creature the male is! About 18 inches or upward in length, he has a large semicircular crest of long, loose feathers, so compressed, laterally, that it assumes a thin edge, thus giving the head a large circular appearance from the side, and making the slender bill, so peculiar to the Mergansers and differentiating them at first sight from the Ducks, to appear particularly diminutive. The head, neck, back, two crescents in front of the wings, and two bars in the speculum are jet-black; crest, excepting the

black edge, speculum, stripes in the tertiaries, and under parts, white; sides, dark chestnut, finely penciled with black; iris, yellow. The female, somewhat smaller, has the head and neck brown; upper parts blackish-brown, many of the feathers being edged with lighter; the small speculum and under parts, white. The young are brown; and as they swim, their motion is so rapid that "their pink feet are like swiftly-revolving wheels placed a little in the rear," "and the water is beaten into spray behind them."

In habit, as well as in the structure of its serrated bill, this bird is a genuine Merganser. It is an expert diver, and feeds principally on fish. It is partial to fresh waters, and therefore is rather rare on the Atlantic Coast, while it is abundant on the fresh waters in the interior of Florida in winter, common on our lakes and streams in migration, and very abundant on the great water-courses of the northwest. In winter it has about the range of the preceding, and it breeds more or less from the Southern States northward into the fur countries.

Its nest is in holes in trees, after the manner of the Wood Duck, and is similarly composed. The 6-10 eggs, about 2.12×1.72 , are smooth, rather spherical, and of a creamy white color. This species breeds abundantly in some of the Western States in the vicinity of the Mississippi. The flight of this bird is so swift that it is very difficult to shoot it on the wing, and it has occasionally been found in Europe.

THE NASHVILLE WARBLER.

About four miles and a half east of Little Current is Strawberry Island, comprising about three thousand acres. Having heard that certain Ducks breed there in the marshes, I make an excursion thither on the 7th of June. Scrambling along the edge of a marsh, where the thickly strewn wind-

falls of cedar make my way exceedingly difficult, as I stumble and nearly fall, striking the muzzle of my gun on the fallen timber, a Nashville Warbler (*Helminthophaga ruficapilla*) flutters over a pile of rubbish with that peculiar tremor of the wings which every oologist well understands. Knowing that this is a ground-builder, I make diligent search for the nest throughout many square feet around me, but all in vain. Meanwhile the bird lingers in the thick bushes in the immediate vicinity, uttering the soft, whistling *tsip*, quite peculiar to itself. Fearing lest I may crush with my foot the hidden treasure for which I am searching, I retire a few rods and hide in the bushes, hoping to detect the nest by means of the bird's return. Presently she ceases her soft alarm-note, and, flitting coyly along, drops down out of sight very near the place where I first saw her. Slowly and softly I approach the site, but again she is on the wing before I can detect her starting point, and again I fail to find the nest. Once more I go back, and, hiding in the bushes amidst a tormenting cloud of mosquitoes, await a much more tardy return of the bird. But I see now, very nearly, where she settles into the nest, and dropping gun and all, and approaching with the utmost stealthiness, I take into my eye the little tract of ground which must contain the mystery, and clapping my hands by way of alarm, I discover this time exactly where the bird flies out. Parting the dried grasses which trail thickly along by the roots of a little bush, I find the nest—a frail, shallow, little affair, of fine dried grasses, lined with bright-red stems or pedicels of moss-capsules, and a black vegetable production, looking as if plucked from a man's beard—perhaps old moss-pedicels blackened from the weather; evidently no animal product, from the manner in which it burns when held in a flame. This slight structure is tucked away in a thick

bunch of hypnum mosses, so that I take up the moss as a part of the nest. The 5 eggs, well on in incubation, about .62×.50, are clear white, sparsely specked and spotted all over with light-red and reddish-brown, the markings thickening into blotches at the large end.

This instance of nidification agrees remarkably, especially in the size and appearance of the eggs, with two instances of that of the same species reported by Mr. Allen, from Massachusetts, with others, more recently, by Mr. Peckham, of Rhode Island—the characteristics being that the nest, which occurs early in the season, late in May or early in June, is on the ground, and well concealed, having the eggs, some .62×.50, milk-white, and moderately marked with reddish tints.

The song of this species is common about Manitoulin and Strawberry Islands, and *does not resemble that of the Chestnut-side*, which may be heard in contrast with it at almost any time. The song of the Nashville Warbler is a composition, the first half of which is as nearly as possible like the thin but penetrating notes of the Black-and-white Creeping Warbler, while the last half is like the twitter of the Chipping Sparrow. As such a composition, its discovery has been exceedingly interesting to me; and may be imitated by the syllables, *ke-tsee-ke-tsee-ke-tsee-chip-ee-chip-ee-chip-ee-chip*.

About 4.50 long, olivaceous above, yellow beneath, head slate, somewhat obscurely crowned with dark chestnut, its slender and very sharp bill, without notch or bristle, declares it to be one of the *Helminthophaga* genus. The sexes have a very close resemblance, the female being simply a little lighter and more obscure in color and marking.

Seeming to winter in Mexico, this species passes through Western New York as a common migrant the first week in

May, and breeds from New England northward to high latitudes, going casually even to Greenland. It is also reported from the Pacific Coast.

THE ORANGE-CROWNED WARBLER.

Belonging to this same genus, and very similar in size and coloration, is the Orange-crowned Warbler (*Helminthophaga celata*). But while it is difficult to distinguish the immature birds, in complete plumage, the difference is quite appreciable. In the case of the Orange-crown, the olivaceous of the upper parts, and especially the yellow of the under parts, is not so bright as in the Nashville Warbler; besides, it lacks the ashy on the head, so conspicuous in the latter, and instead of dark chestnut, the crown is a rather pale orange. Sometimes this latter mark is entirely wanting. On the whole, Orange-crown appears a little the larger of the two. Common in Florida during the winter, it migrates but rarely into the Northeastern States, but becomes common to the west and northwest, and even abundant along the Pacific Coast.

“A nest of the Orange-crowned Warbler, taken June 12, 1860, by Mr. Kennicott, at Fort Resolution, Great Slave Lake, was built on the ground inside of a bank among open bushes, and was much hidden by dry leaves. It contained five eggs. This nest is built outwardly of fibrous strips of bark, interiorly of fine grasses, without any other lining. The eggs are very finely dotted all over—thickly about the large end, more sparsely elsewhere—with pale brown. They measure about $.67 \times .50$.” (Coues.)

The Tennessee Warbler (*Helminthophaga peregrina*) is a delicate beauty, bearing some resemblance to the last two. It is quite rare in these eastern regions, but common to the westward, even abundant, in the migrations, along the Red

River of the north. Some 4.50 long, it is olivaceous above, becoming a delicate ash on the head and neck, the lores being shaded with dusky, and the ring around the eye, and the line over it, being whitish; the under parts are white, sometimes slightly tinged with yellow. In the female and young, the ash of the head and neck is more or less olivaceous. It breeds far to the north, its nest having been found at Michipicoton on Lake Superior. In all stages of plumage it may probably be distinguished from the two former by its wing, which is some 2.75, and therefore from .25-.50 longer.

THE BLUE-WINGED YELLOW WARBLER.

On the 18th of May, in Northeastern Ohio, I took a bird of this genus, the Blue-winged Yellow Warbler (*Helminthophaga pinus*). That seems to be about the northernmost limit of this rather southern species. I detected it from its feeble and drowsy song, sounding like the syllables, *sweet-e-e-e-zree-e-e-e*, in a decidedly insect tone, and the latter part in the falling inflection. It is quite suggestive of the song of the Yellow-winged Sparrow. About 5 inches long; yellowish-olive or light-green above; forehead and entire lower parts bright yellow; bill and strip through the eyes, black; wings and tail a light slaty-blue, the former with two bars of white, the latter with white blotches in the outer feathers. All the colors are particularly delicate and beautiful. Female and young similar. Though but an humble musician, this bird is very beautiful to the eye. In keeping with the rest of its genus, its nest is on the ground. "The eggs, of the usual shape, and measuring about .63 × .48, are white, sparsely sprinkled, chiefly at the great end, with blackish dots, and few others of lighter dirty-brownish." (Coues.)

Mr. S. N. Roads, of West Chester, Pa., found two nests of

this species in 1878. One found the 12th of June contained young about two days old. The nest was "in the midst of a clump of tall swamp-grass, on the outskirts of a forest where there was a good deal of weedy undergrowth not over two feet high. The nest rested slightly on the ground, and was quite bulky for the size of the bird; the cavity was nearly three inches deep by two inches in width. The structure was composed externally of beech and oak leaves of the preceding year, which seemed to have been carelessly strewn and stuck in as if to form a barricade around the brim. The lining consisted of fine strips of grape-vine and inner bark of the oak, together with some straws." Several other nests were found in the same locality.

Wintering in Mexico and Central America, this species has never been reported from New England, except by Mr. Samuels.

The peculiarities of this strongly marked genus, *Helminthophaga*, are its very sharply-pointed bill, almost like the point of a needle, and without notch or bristles; the exposed nostril, and the rather long-pointed wing.

Having spent a very profitable afternoon, my company and I leave Strawberry Island for Little Current, about sunset, our eyes full of the reminiscences of beautiful flowers and our ears full of the songs of birds. The evening is perfectly calm, the scene one of the finest I have ever witnessed. In front of us to the west the departing sun is closing behind him his gorgeous and many-colored portal of clouds. In the immense sheet of water of glassy smoothness, every tint of purple, crimson and gold, with the grand arch above, and the tiniest fleece of cloud, are mirrored to the minutest perfection. Away to the right rise the mountains of Lacloche, their grand heights of snowy

quartz reflecting the many colors of the evening; and in the foreground, the dark pines of Lacloche Island and the elegant landscape of the Island of Beauty, are attracting the sombre shadows of night. To the left are the green mountains and sloping hills of Great Manitoulin; and so perfect is the mirror of the waters that the landscape, as well as the sky, is double. We are speechless with the impressive and sacred beauty of the scene. Only the muffled splash of our oars and the ripple of the boat are heard, and we recall that the meaning of Manitoulin is *Island of the Great Spirit*; and that many other names of places in the locality are associated with the Indian name of the Deity. Does not the innate consciousness of a God, as revealed in the beauties and the forces of nature, dwell even in the breast of the savage? We are reminded, too, of certain passages in Revelation: "And there were seven lamps of fire burning before the throne, which are the seven spirits of God; and before the throne, as it were a glassy sea like unto crystal. * * * * And I saw as it were a glassy sea mingled with fire; and them that come victorious from the beast, and from his image, and from the number of his name, standing by the glassy sea, having harps of God. And they sing the song of Moses, the servant of God, and the song of the lamb, saying, great and marvelous are thy works, O Lord God, the Almighty; righteous and true are thy ways, thou King of the ages."

At dark we reach our tent on the lawn of G. B. Avery, Esq., to whose personal kindness, as well as that of his wife and family, we are greatly indebted.

Our next move is to Lacloche, a fur-trading post of the Hudson's Bay Company, nestling at the foot of the mountains on the north shore. After careful instructions as to the route, we thread our way through the labyrinth of islands,

by way of Flag Channel, some dozen miles, and are in full sight of the neat white group of buildings, when all suddenly a tempest sweeps across the bay. In the heavens above the storm-forces are marshalled in terrible array; the troubled waves reflect the inky blackness of the sky; the blinding lightnings quiver along the sombre crests of the low clouds; the sonorous peals of thunder echo from the clouds and the mountains; the rain falls in torrents, lashing the angry billows into a white foam. Our heavily-loaded boat rocks dangerously in great troughs of this surging sea, and the waters dash over us from bow to stern. Pointing our boat to leeward, we drive swiftly toward a small island some half mile away. We reach it in safety, but the rain has run through every thread of our clothing and filled our boots.

After an hour or more the rain subsides, but the wind continues, and we are obliged to set up our tent for the night. In due time our canvas house, thickly overshadowed by the trees, is ready for lodging, and we are preparing a comfortable evening meal over that convenient tenting appurtenance—a kerosene stove. The ground is thoroughly saturated, but by the aid of plenty of spruce boughs our bedding is kept dry, and we sleep a dreamless sleep, amid the hoarse tones of waves and breakers. On awaking in the morning, I detect the sun-light through the trees, and turning towards my nearest comrade, spy a toad sitting placidly on his rosy cheek. As I send the reptile sprawling on the ground, the eyes of my friend open wider than usual at the sight of its upturned under parts; and those facial muscles, which, under certain emotions, raise the corners of the mouth, shorten the cheeks and fashion a circle of cheerful wrinkles about the eyes, work with peculiar effect.

THE OLIVE-BACKED THRUSH.

In every direction over the island we hear the songs of Warblers. Here is the song of the ever-present Yellow-warbler (*D. aestiva*), the hurried melody of the Canada Warbler, the drowsy notes of the Black-throated Green, and the slender ditty of the Black-and-white Creeping Warbler. Amidst them all I hear the song of a Thrush. To an inexperienced ear it might pass for a poor performance of the Wood Thrush, but it is decidedly inferior in capacity, and the tones are not nearly so loud, liquid and penetrating. I hurry out and look around, but cannot detect the singer, which becomes silent on the least disturbance in his vicinity. During breakfast we hear him again, and are as much puzzled as before. Searching the trees and bushes around the tent, I find a nest in a small balsam-fir, placed on a limb near the trunk and about eight feet from the ground. It is the nest of the Olive-backed Thrush (*Turdus swainsoni*). While yet in the tree I hear its alarm note, 'quit, quit, quit'; the syllables being uttered several times, with a pause of a few seconds after each articulation. The alarm note, like the song, bears a striking resemblance to that of the Wood Thrush, except that in the case of the latter, the sharp syllable is uttered a greater number of times and in rapid and spirited succession:—quit-quit-quit-quit-quit. In size, however, about 7-7.50 long, the Olive-back is nearer Wilson's Thrush and the Hermit; but it is always to be distinguished from the former by its darker upper parts, which are of a deep olive-brown, becoming reddish on the rump and tail, and by its larger breast-markings, and from the latter by its creamy breast and cheeks, as well as by its more dusky mantle. The creamy breast shades into the white of the under parts, and the black spots become more obscure on the lower parts of the breast.

In the trees and tall bushes along Lacloche Creek, which has a rapid and noisy run of about half a mile from a lake in the mountains to the bay, I hear the song and notes of *swainsoni* quite commonly; but, except in the migrations, when it spends much time on the ground, it keeps for the most part pretty well up in the trees and bushes, and is so shy that only occasionally can one get a glimpse of it. In this locality the similarity of its song to that of the Wood Thrush can be well studied, for they both sing very commonly in closely adjoining haunts, and were it not for the greater brilliancy and marvelous expression of sentiment in the performance of the latter, the Olive-back would rank as no mean artist.

For two successive years Mr. Frank H. Lattin, of Gaines, Orleans Co., N. Y., has found the nest and eggs of the Olive-backed Thrush within a short distance of his residence, thus proving a remarkably southern extension of its breeding habitat. One found on the 2d of June, 1880, containing 4 fresh eggs, was about 4 feet from the ground, in a small elm sapling standing near the woods in a bushy field. Another taken June 1st, 1881, near the same spot, and having 3 fresh eggs, with one of the Cow Blackbird's, was in a slim maple sapling, and about 10 feet from the ground. One of these nests, now before me, is composed of dried weeds and grasses, and lined with rootlets. It is frail and loose, resembling that of the Rose-breasted Grosbeak or Scarlet Tanager. Had it not been so well identified, I should doubt its genuineness; for the nest of the Olive-back is generally more bulky and substantial, and very well lined, though it contains no mud. The eggs, some .90 or .92 x .62, are green, finely specked and spotted with several shades of brown.

Concerning that variety of the above species called Alice's

Thrush (*Turdus swainsoni alicia*), Coues says :—“ Similar, but without any buffy tint about the head, nor yellowish ring around the eye ; *averaging* a trifle larger, with longer, slender bill. Much the same distribution, but breeds further north. Nest and eggs similar.” It is sometimes called the Gray-cheeked Thrush.

— THE HERRING GULL.

The most characteristic bird of Georgian Bay is the Herring Gull (*Larus argentatus*). In Collingwood harbor it sails among the masts of schooners and the smoke-stacks of steamers almost as fearlessly as if no one were present, seeming to understand that that city has a special law for its safety. Any bit of offal is eagerly gobbled up, and the large quantities of refuse-matter cast overboard by the fishermen are readily devoured by these elegant scavengers. If a steamboat starts out, numbers follow in her wake, to take advantage of anything edible which is thrown into the water; and until the distant port is reached, scarcely a minute are they out of sight. One may amuse himself by the hour throwing bits of cracker or meat overboard for them. Quite a distance off they will detect a mere crumb on the surface, and, screaming with delight, pick it up on the wing. Should the cook throw overboard a dish of remnants, a considerable number will alight on the water and take their repast at their leisure. Should one discover a particularly large or desirable morsel, he will seize it and rise to leave, pursued by several of his eager squalling comrades. All along upon the rocks and shoals they stand like snowy sentinels; here and there they float lightly on the water; or they fly low over the surface in search of prey, or soar majestically against the clear ether or the sombre cloud; the entire snow-white figure of their under parts reminding one forc-

ibly of the purity of the elements around. The length of this species being 2 feet or upwards, and its spread of wings some $4\frac{1}{2}$ feet, it compares well in size with the larger birds of prey, and its strong steady stroke of the wings, as well as its spiral soaring, is very suggestive of the grand flight of the larger Buzzards. Pure white in maturity, with yellow bill and red gonys, a light bluish-gray curtain over the back and wings, ends of the primaries jet-black tipped or spotted with white, feet a delicate flesh color, this bird is an object of great beauty in whatever attitude one meets it. On clear sunny days of April I have seen it flying leisurely northward, overland, so high up that it appeared at first sight like a bit of stray down floating in the atmosphere, and only as the eye adjusted itself to the distance could its outline be defined.

The Herring Gull breeds in community in a number of places about Georgian Bay, sometimes a dozen or fifty appropriating small rocky islands or shoals, sometimes very large communities taking possession of larger islands, or even groups of them. One of the most extensive breeding places is the island called the Half-moon, lying between Cape Hurd and the east end of Great Manitoulin. Here the fishermen sometimes obtain hundreds of dozens of the eggs at a time. The nest, generally placed in the most exposed situation on the bare rocks, sometimes under shelter of the bushes, is a promiscuous pile of trash and dirt—consisting largely of moss and lichens gathered from the rocks, of small sticks and dried grasses, of almost anything to be picked up in the vicinity—pretty well heaped up, and with a considerable depression in the center. The eggs, the full complement of which is three, are about $2.75-2.83 \times 1.80-2.00$. The color is greenish or brownish drab, with dark brown and light grayish-brown spots, blotches and

scratches, extending more or less over the entire surface, but frequently thicker at the large end. The thick and elegant down of the newly-hatched young is nearly the color of the egg. As these birds occupy the same site for breeding, from year to year, it becomes generally known in the vicinity, or if the spot be remote it is visited by fishermen and adventurers from a distance; and the nests are robbed most unmercifully, often until late in summer, the Gulls continuing to lay in a very prolific manner. The disastrous consequences of this cruel practice, thus kept up from year to year, must be very great, rapidly reducing the number of these birds, so useful as scavengers and so highly ornamental to the landscape. It is probably in consequence of this continued disturbance that whole colonies about the sea-shore have resorted to the trees for nidification.

Visiting Seal Island, Yarmouth County, Nova Scotia, last June (1883), I was most intensely interested in studying the nesting of these Gulls on trees. A great part of the island, as also of other islands in the vicinity, is covered with a peculiar growth of black spruce (*Abies nigra*); rather low, as if stunted by the cold foggy atmosphere, the branches are very thick and numerous for the height of the tree, as if made dense by the shortening of the trunk; and the broad top is as flat as a Chinese umbrella. Climbing to the tops of these trees, one seems to have reached an immense level plane of dark green, across which a squirrel might run with all ease. Indeed, it almost appears to the eye as if a man might traverse it—at least with snow-shoes. My first survey of this scene was just after a bright June sunset. All over this expanse of dark verdure, hundreds of Gulls were alighted, singly, in pairs, and in groups, their chaste white figures most elegantly tinted with the rosy hues of the lingering sunlight, while many others were describing their

grand and noisy circles overhead. In the open spaces, where fire had destroyed the trees, a good many nests were on the ground, built as described above; but many more were on the almost level tops of the trees, and were constructed precisely like those on the ground. In foggy weather this immense colony of birds, much magnified by the mists as they describe their maize of circles in the sky, are a weirdly grand sight, which cannot be surpassed even by that of the hundreds that sail through the mists arising from Niagara Falls in winter. On searching the above locality for nests, one is well convinced of the increased security resulting from this change in the manner of nesting; and one is not a little surprised at the sagacity of the bird, which has availed itself of so evident an advantage.

Their breeding habitat on the Atlantic is from Northern Maine and Nova Scotia northward.

At their breeding places these Gulls are quite noisy. They have a loud, clear note, sounding like *chee-ah*, every now and then repeated, and a shorter nasal *hunk*, *kunk*. These notes are uttered in a very spirited manner, as they describe their circles high overhead when their nests are being disturbed. They are also accompanied by a harsh rattling sound—*kuk-kuk-kuk-kuk-kuk-kuk*.

“How many kinds of Gulls breed on these shoals?” I inquired of an old gentleman, as the tug was nearing one of the well-known breeding places. “Two,” was the answer, “White uns an’ gray uns.” So might any one think who is not acquainted with the history of these birds; but the fact is that the white ones and gray ones are all of the same kind, the young birds, in their gray plumage, requiring several years to reach the mature coloration.

The old gentleman in question must have mistaken, however, the appearance of the birds later in the season for

that of the breeding time; for the immature specimens, though seen in leisurely flocks all summer, farther south on the Great Lakes, never appear on the breeding grounds in spring. The colonies resorting thither are all in the full purity of their final summer plumage, and thus their beauty, as a part of the landscape, is greatly enhanced. Like the Gull family in general, this bird has two moults, one in the spring and one in the fall, and during winter the mature bird has the head and neck streaked with gray.

From its name, one might suppose that this bird subsists, mainly at least, on herring, but it captures with equal readiness any fish of proper size, dashing at the surface, or dropping into the water, a few moments, to secure it, but rarely, if ever, plunging after it. It also feeds on various kinds of mollusks, holding the shell in its claw, after the manner of a Hawk, and breaking it with its bill in order to secure the contents. Dr. Coues "once found remains of a Marsh Hare in the stomach of one of these Gulls." I have seen it pick up the newly-skinned body of a Common Tern, thrown on the water, and gulp it down at a mouthful, scarcely retarding its flight. In fact, it will feed on almost anything, and in certain localities is an excellent scavenger.

THE RING-BILLED GULL.

Observing the Herring Gulls, on Georgian Bay, one will notice certain individuals very much smaller than the rest, while their form and color, as well as their general habit, are precisely the same. On shooting one of these, however, it will be discovered that the bill is greenish-yellow at the base, followed by a broad band of black encircling it at the gonyx, while its tip is bright chrome; the angle of the mouth and part of the cutting-edges of the bill being red, and the legs and feet of a dusky green. On measuring

it, it is found to be only 18-20 inches long and some 48 inches in extent; thus being much smaller than the Herring Gull, while the colors of its bill and feet fully differentiate it. From the dark ring around its bill, it is called the Ring-billed Gull (*Larus delawarensis*). It has nearly the same diet and habitat as its near relative, which it so closely resembles.

About 44 miles northeast of Collingwood, and somewhat north of the route from that city to Parry Sound, are the Western Islands. They are in two thick groups, the largest islands containing several acres each, the smallest being mere rocky shoals. One of the largest has a few trees, most of the rest contain a few shrubs, and more or less small vegetable growth and grasses on some of the ledges of rock. They are many miles from any human habitation, resting quietly in the grand solitude of this waste of waters. On one of the larger islands of these groups, the Ring-bills breed in immense numbers. As one nears the shores they literally swarm with many hundreds, if not thousands, of these elegant birds. The rocks and the waters along the shore are literally white with them. Approaching still nearer, they take alarm, and rise like an immense living cloud. The very air, rustling with the noise of their snowy wings, seems alive with them; and still they rise from the more distant parts of the island, until their numbers are overwhelming. Rising high overhead, the great mass spread out somewhat, and describing their graceful circles, intersecting each other at points innumerable, form most complicated and animated figures of huge dimensions against the sunlit ether or the thick veil of dark clouds. Now they become very noisy, their voices being quite similar to that of the Herring Gull. Presently the great excited mass separates into sections; several

large groups drop into the water near by, and whiten its surface for some distance; others continue their flight farther away, while not a few still linger near to watch the fate of their treasures,—and keep up an uneasy chattering directly overhead. The nests on the island are found to be almost numberless, some of them being so close together, that the sitting birds must almost touch each other. In the style of the nest, the shape, color and number of the eggs, and the color of the newly-hatched young, there is the greatest resemblance to the nidification of the Herring Gull; only, in accordance with the diminished size of the birds, both nests and eggs are much smaller; the latter being $2.07-2.50 \times 1.63-1.70$. On the whole, the marking of these eggs tends more to blotches than is the case with the eggs of the near but larger relative. Also the bills and feet of the young are noticeably darker. Passing by many nests containing newly-hatched young, and others with eggs, through the shells of which the peeping chicks have already thrust their bills, one may gather a sufficient supply of eggs for study, scarcely affecting the number on the whole.

The full-grown young, on through its years of gradual change into the maturity of coloration, bears a close resemblance to the Herring Gull of corresponding age; in fact, in shades and markings is about identical. The resemblance of these two species also holds good in respect to the mature birds in their annual changes of plumage.

The Gulls proper are a well-marked subdivision of the Gull family in general, that family including Jaegers, or Skua Gulls, Gulls proper, Terns and Skimmers. Some of the differentiating characters of the Gulls proper are: the rather long, deep and much compressed bill, well hooked toward the point, with peculiar enlargement at the

gonys, and sharp cutting edges; tail generally even; body thick, and wings broad, as compared with the Terns, for instance, while they are usually of larger size; feet and legs stout for birds of their class; and the bouyancy with which they float on the water, on account of their small bodies as compared with the bulk of their plumage. In form, generally, the whole sub-family are so similarly moulded, that any eye of moderate discrimination can recognize them. In size and color they are subject to great variation.

CHAPTER XIX.

TENTING ON THE NIAGARA.

THE Niagara ranks with the most interesting rivers of the world. Its great gorge, cut from Queenstown Heights to Niagara City by the constant recession of the falls, is not only grand in itself, but affords the most important data for reckoning geological time, and also a most admirable illustration of the rock strata of the upper silurian age; while the falls are not second to any of nature's wonders. Indeed, from Lake Erie to Lake Ontario, the river is throughout an object of varied beauty. As this work is written especially from Western New York as a point of view, I have thought it necessary to spend time on this grand water-course; and that time has been passed mostly in tenting. For this kind of recreation no locality could be finer than Buckhorn Island, which is separate from Grand Island by Burnt-ship Creek. Here I once pitched my tent, in the middle of August, under the shade of a large maple in the edge of an open grove with a green sward almost equal to a lawn, which, undermined along the margin of the river, dropped over the low bank to the water's edge like a fine terrace. Thus located on the very brink of the river, the east end of the tent opened toward Tonawanda, the west toward Niagara City and the Falls, which were some four miles distant and in full view. Directly north was the village La Salle, and the fine country

along the river. The waters of this river being the outlet of one great lake into another, and therefore wholly unlike those rivers which drain alluvial soils, are remarkably pure. Hence, the sheet of water east of Buckhorn, about a mile in width, and breaking into the rapids to the south and west, is an ever changing scene of great beauty. In certain hours of the day, when the sky is bright, the color is a delicate green, compared with which the clearest sky looks dark and inky. In no other waters, of river, lake or ocean, have I ever seen so bright and beautiful a tint of green. When tossed by the wind this sheet of green is ornamented with large snow-white crests of foam. Again it assumes a deep purple or a cold gray, or almost a deep black, when frowned upon by a darkly clouded sky. The roar of the falls is nearly as distinct as it is in the immediate vicinity, and the mist, which rises constantly, is ever changing, both in quantity and appearance. Sometimes it is barely perceptible, or even disappears entirely; again it is a thick column, and forms a dense cloud. Generally it is about the color of steam; sometimes it is like a column of black smoke against the gaudy tints of sunset. I occasionally see it, toward the close of day, of a delicate rose-tint and once after a heavy storm, as the sun, nearing the horizon, threw a flood of light from behind the black cloud formed above the cataract, the mist, as it rose, was a bright flame-color; and, rolling among the trees on the Canadian side, seemed like a raging fire. The city was wrapped in a golden cloud, and the whole landscape to the east was bathed in a rosy mist.

Next to the sweet and simple pleasures of childhood are those of tenting out. O, the delicious quiet and freedom, as I recline on the grass with my good and companionable friend, to partake of the simple but palatable meal which

our own hands have prepared; or bend over the side of the boat and wash our few dishes of bright tin; or sit in the tent door at the close of day reading or watching the birds on this grand water-course. It reminds one, too, of the ancient, patriarchal days when Abraham, Isaac and Jacob dwelt in tents; and thus carries us back from our highly artificial and complicated age of living, and gives us a glimpse of the quiet peace and simplicity of the olden times—of the sweet infancy of human history. What an object of beauty is a new wall-tent—almost as white as snow—upon the clear roof of which, through the ever moving trees, play, by day, the shadows of the sunlight, and by night, the shadows of the moonlight. My carpet, too, of rich green-sward intermixed with a variety of small plants, is a real study in botany. Here I rest sweetly on the very bosom and near the heart of nature.

THE SPOTTED SANDPIPER.

The most constant bird-note along the river and the shore is the rapidly uttered *peet, weet, weet, weet, weet, weet*, or *wreet, wreet, wreet, wreet*, of the Spotted Sandpiper (*Tringoides macularius*); a most common and characteristic bird throughout North America; unlike most of its tribe, which go far north for nidification, it breeds from Texas to Labrador, and as abundantly along the waters of the interior, as in the vicinity of the sea. Its well pronounced notes express the very soul of sweet content and cheerfulness. Who could be the victim of care or melancholy, nesting in the quiet haunts enlivened by such sprightly tones! Scarcely less melodious are they than the tender utterances of the piping Plover. Indeed, but few of the sylvan songsters can render their strains more suggestively pleasing. On the ground or in the air, it is exceedingly graceful. As the bird alights and

begins to run, the passage from one kind of locomotion to the other is so easy, one can scarcely see where flight ends and running begins.

It has, moreover, two distinctive habits of motion, which may keep time with its notes, and really become a part of the landscape of its haunts about lakes, ponds and streams. The *first*, pertaining to its flight, is the tremulous vibration of its long-pointed wings, curving downward after certain regular strokes. The *second* is the perpendicular sweep of the tail and hinder part of the body, so rapid and constant while the bird is alighted as to give it the common name, Tip-up. Both these motions are exceedingly graceful, and add greatly to the character and charm of this gentle, confiding bird, the most common of all our Waders. The peculiar note, and the motion while on the ground, are both assumed by the young about as soon as they leave the shell.

Arriving in this district, and in the Middle States generally, about the middle or twentieth of April, it is exceedingly sprightly and musical on all our water-courses, retiring to the fields, late in May or early in June, for nidification. The nest is on the ground, in any cultivated field or pasture, or about barren shores, generally near, but sometimes rather remote from water, and ordinarily consists of a loose arrangement of dried grasses or straw, but it seems to increase in bulk and elaborateness of structure as the bird extends northward. In Labrador, Audubon found these nests "made of dry moss, raised to the height of from six to nine inches, and well finished within with slender grasses and feathers of the Eider Duck." In this locality they are found, also, well sheltered beneath shelving rocks. As its breeding habitat is so extensive, its time of nidification varies with the locality. In Texas, Audubon saw the young "well grown" by the fifth of May, while in Newfoundland

they were "just fully fledged" by the eleventh of August. The parent leaves the nest with much reluctance, and manifests the greatest distress as she hobbles and flutters along, or even prostrates herself on the ground, at a short distance, uttering the most plaintive notes. The 4 eggs, $1.35 \times .92$, are a grayish cream, specked, spotted and heavily blotched with dark brown and also a lighter tint. Like the eggs of the Waders in general, they are quite pointed, and large for the size of the bird. When in the down, the young are gray, having a black stripe over the back, and one behind each eye.

This bird spends the winter in the Southern States, but extends also through Mexico and Central America to South America. It is 7.00–8.00 long; bill about 1.00, and grooved nearly to the tip; head and neck slender; color above, a bronze-olive, much like that of a Cuckoo, with fine central lines or wavy cross-bars of black; eye-lid, line back from the eye and under parts, pure white in the mature birds, and finely spotted with black, the young lacking the black spots.

The Solitary Sandpiper (*Totanus solitarius*), some 9.00 long and 17.00 in extent, is "dark lustrous olive-brown, streaked on the head and neck, elsewhere finely speckled with whitish; below, white, jugulum and sides of neck with brownish suffusion, and dusky streaks; rump and upper tail-coverts like the back; tail, axillars and lining of wings, beautifully barred with black and white; quills entirely blackish; bill and feet blackish; young, duller above, less speckled, jugulum merely suffused with grayish-brown." This "shy, quiet inhabitant of wet woods, moist meadows, and secluded pools, rather than of the marshes," is not gregarious, and is often found singly. Its nidification is but imperfectly known. An egg from Vermont, well identified, was described by the late Dr. Brewer. Mr. Jas. W. Banks, of St.

John, N. B., found a nest containing 3 eggs on the shore of a lake in the suburbs of that city, July 3d, 1880. It was "about 200 yards from the edge of the lake, on a dry spot in the midst of a rather swampy patch of meadow." Mr. Maynard gives the following description of a set of eggs well identified, from Utah. Dimensions from .95 \times 1.35–1.00 \times 1.40; varying from creamy to pale buff in color, spotted and blotched with umber-brown of varying shades, with the usual pale shell markings.

THE BANK SWALLOW.

Just above the tent where the bank curves gracefully and is quite a little above its ordinary height, a community of Bank Swallows have selected their summer residence. A grand sheet of water is this for them to skim, in their graceful aerial evolutions. In every way a most delightful summer resort do they find this. Five inches long, dull or grayish-brown above, with pectoral band of the same, and white underneath, like the Swallows generally, the Bank Swallow (*Cotyle riparia*) reaches us late in April or early in May. In communities about river-banks, or quite as readily in sand pits remote from the water, excavating eighteen inches, or two feet, into soft, sandy earth, they place in an enlargement, at the end of the burrow, a nest consisting of dried grasses, loosely arranged, and containing four or five white eggs, some .68 \times .50. A first set is laid late in May or early in June, and a second may follow later.

Breeding in North America generally, and spending the winter from our southern coast southward into the West India Islands, *Cotyle riparia* is found also in Europe.

The Bank Swallow is easily mistaken for the Rough-winged Swallow (*Stelgidopteryx serripennis*); very similar in its general appearance and habit; but the latter can be dis-

tinguished, when flying towards one, by the absence of the pectoral band of the former; and when in the hand, it is found to be a little larger, not so clear white underneath, and lacking "the curious little tuft of feathers at the bottom of the tarsus," so characteristic of the former; while the recurved outer web of the primaries, in the male, equally differentiates it, as well as secures its common name. It, too, generally breeds in banks, though "it has been found breeding about the piers and abutments of bridges, etc." (Coues.) It is "distributed, during the breeding season, throughout the United States exclusive of New England." (Maynard.)

The Bank Swallow, unlike the Swallows generally, seems unaffected, in its habits of nidification, by the introduction of civilization; but both it and the Rough-wing seem less noisy and less musical than their congeners.

THE KINGFISHER.

Never did I see anywhere so many Kingfishers as on the Niagara River. At my tenting ground, on Buckhorn Island, they were almost constantly in view, and never before did they seem to me to be so fine an ornament to the landscape. Their flight, as they passed up and down those lovely waters, moving in long curves, caused by a more rapid beating of the wings every few yards, and thus throwing themselves up at intervals, was really graceful. Their forms, too, seemed especially graceful; their long wings, so finely marked, as they opened in flight, with a long bill and crest overtopping the pure white neck, all added to the pleasing figure. The Kingfisher can hover as elegantly as any Falcon, while he eyes his prey in the clear depths; and his adroitness in plunging head first into the water, utterly burying himself in search of his sprightly game, and again

emerging and putting off with an air of real pleasure, is very animating to the beholder, to say the least. One almost feels like clapping his hands at the success of the feat. I watch him with interest even as he alights upon a stake or a limb over the water, intent upon his prey beneath, occasionally jerking his tail, or repeating his peculiar rattle, often compared to the whistle of a night-watch, but sounding really musical in this pleasing solitude.

Reaching this locality as early as the 18th of March—for they barely go far enough south in winter to find the streams clear of ice—they are already prospecting for a nest by the first week in April. The nest is near the inner extremity of a hole in the bank of a stream or pond, some 4 or 5 feet from the entrance; often near the surface, but if the bank be high, it may be a number of feet below. The nest consists of a few sticks or a little straw, with some feathers; and contains some half-dozen pure white eggs, about 1.32×1.05 . Incubation, which is performed by both parents, lasts about two weeks, and the young receive the best of attention. When they are disturbed, it is said "the mother sometimes drops on the water as if severely wounded, and flutters and flounders as if unable to rise from the stream, in order to induce the intruder to wade or swim after her, whilst her mate, perched on the nearest bough, or even on the edge of the bank, jerks his tail, erects his crest, rattles his notes with angry vehemence, and then springing off, passes and repasses before the enemy with a continued cry of despair."

About a foot long, the Kingfisher (*Ceryle alcyon*), is slaty-blue above, including the long crest and band across the breast, the shafts of the feathers black, spot in front of the eye, collar around the neck, and under parts generally, pure satiny white, quills and tail-feathers mostly black, spotted

with white, wing-feathers and wing-coverts often tipped and specked with white, the long bill black, toes much joined together; the female, with a chestnut band across the lower breast, just below the one of slaty blue, has also chestnut along the sides.

The fish-diet of this bird makes it very disagreeable to the taxidermist. It is a most characteristic bird of North America, reaching to Central America and the West India Islands. About the valleys of the Rio Grande, Colorado and southward, there is a beautiful green species but 8 inches long, called Cabanis' Kingfisher. These make up the Kingfishers of our continent.

THE MARSH HAWK.

While the northern or front side of Buckhorn Island is tillable upland, affording a profitable fruit farm and an elegant grove, the southern part, along Burnt-ship Creek, is an extensive marsh, with an abundance of tall grass and sedges, elegantly ornamented with wild flowers, and an occasional group of alders. Here I take a stroll, gun in hand. A quieter spot it would be difficult to find, but oh! how trying, to a sweet temper even, to traverse these hummocks! They are scarcely larger than a man's hat, and afford such a luxuriant growth of tall marsh-grass, that one can scarcely force the foot through it, while all the interspaces are a bottomless soft mire. I make my perilous way, catching hold of the grass to support my uncertain steps, and unable to observe anything, when lo! I am startled by putting up a fine female of the Marsh Hawk or Harrier (*Circus cyaneus*; var. *hudsonius*). She rises but a few feet ahead of me, and on reaching the spot I find the feathers of the Common Rail, the late quarry of the startled bird. These Hawks are so plenty as to be almost constantly in sight about this

marsh, being about as common here as on the salt marshes of New Jersey. With long wings and tail, they always fly rather low, often near the ground, and never very swiftly. Accustomed to pass and repass while searching thoroughly a given locality, they generally sail, with a few occasional strokes of the wings to gain a new impulse. Either the clear bluish-gray male, or the mottled and streaked reddish-brown female, each having the conspicuous white spot on the rump, may be readily recognized. When the mature male passes over you, excepting a few dark markings near the throat or breast and the black points of his wings, he appears almost pure white. This species has indeed "a queer owlish physiognomy, produced by the shape of the head, and especially by the ruff of modified feathers, which in its higher development is characteristic of the *Strigida*," or Owls

The female is very noticeably larger than the male, being some 20-21 inches in length, while the former is but 16-18 inches, and somehow appears more frequently, in migratory periods at least, in the low flight which this bird makes in search of its lowly prey of insects, mice, snakes, and frogs. Of the latter, *Circus* is said to be especially fond, so that one writer affirms that "these goggle-eyed and perspiring creatures suffer more from the Harriers than from all the school boys that ever stoned them of a Saturday afternoon." It will readily be seen that this bill of fare necessarily attracts them to marshes and bogs. In these "watery preserves" they may not infrequently feast upon a Rail or a small Wader. In every case, like the Buzzards in general, they drop upon their prey and devour it on the spot, thus differing greatly from the Falcons, which dash upon their victims in the swiftest flight, and from many of the *Raptors*, which convey their prey to fancied places for consumption.

The nest, placed on the ground in some marshy spot, and more or less neatly arranged of dried grasses, sometimes resting on a slight bed of sticks, is about a foot in diameter and three or four inches in depth, and is sometimes partly sheltered by shrubbery. It contains some four or five greenish-tinted eggs, some 1.85×1.45 , sometimes obscurely marked with brownish or lavender. This species generally breeds in May or early in June. Arriving here in April, it leaves for the south rather early in the fall.

Of this species, variety *hudsonius*, is found throughout North America, variety *cyaneus* in Europe and Asia, while *cinereus* belongs to South America.

THE CAROLINA RAIL.

But for the feathers of this Carolina Rail (*Porzana carolina*), left after the meal of the Marsh Hawk, the stranger to ornithology might not suspect its presence in this marsh; for they may abound, in one of these sedgy, reedy localities, and yet be so closely concealed as to elude all ordinary observation. They are abundant, however, in the marshes and about bodies of water, throughout the middle districts of our Union, and far to the north, from April till late in October, disappearing, it would seem, on the approach of cold weather. If the observer will carefully hide himself in these marshy resorts, near the close of day, he may hear their *queep-cep-ip-ip-ip-ip-ip-ip*, or *quaitte, quaitte, peep, peep, kuk-kuk-kuk*—the first two or three syllables in long-drawn, coaxing tones, and the remaining syllables shorter and more hurried—representing the vocal performance of this species. Here, too, especially if he be near the border of some sluggish pool, he may have frequent glimpses of *Porzana*, as it runs with tail erect upon the lily-pods in search of its food of small aquatic

animal, as well as vegetable life, but particularly the seeds of weeds.

How gracefully it walks along that floating log, moving its head forward and backward in dainty dove-like jerks to keep its center of gravity, and also jerking its tail forward with a quick spreading motion. Leaving the log and traversing the floating debris, it slumps in and wades or swims for a short distance without the least inconvenience.

While traversing a marsh, in the beautiful days of October, one may every now and then see it start up from almost under foot, and flying with apparent feebleness just above the tops of the grass, with legs dangling carelessly downward, drop suddenly out of sight again, to be put up a second or third time perhaps, but finally depending upon the strength and facility of its legs, rather than upon its more feeble wings, for safety. Its body, too, becoming almost as flat as one's hand at pleasure, can wedge its way through sedges and rushes, almost with the ease of a mouse. It is equally expert as a diver, clinging with its feet for some time to the reeds under water, or, when compelled to breathe, hiding dexterously under floating herbage, merely protruding its head or bill above the surface. Being in good requisition for the table, it has been extensively hunted, especially about the marshes of Delaware and Chesapeake Bays, where it is very numerous. Wilson gives a full account of the manner of capturing these birds in his day—a general slaughter, decidedly repulsive to good sense and humane feelings.

The nest, built here late in May, in its favorite localities, is placed on a matted tussock of dried sedges or grasses. It is quite basket-like, tied just above the water, neatly laid of fine materials, well edged up, and having the tops of the grasses elegantly woven together as a canopy over the nest.

It contains 7-12 eggs, some $1.20 \times .90$, of a rich, clear brownish drab, with scattered and distinct specks, and large spots of dark umber and light gray. The young, looking like diminutive black chickens, with a bit of red under the chin, run about as soon as hatched.

Some 8-9 inches long, with the short, round wings, short pointed tail of soft feathers, and long slender toes, common to all the Rails, but with the shorter, stouter bill, common to the genus *Porzana*, it is olive-brown above, spotted with black and streaked with white; space around the base of the bill, and stripe down the throat and breast, black; sides of the head, neck and breast, ash, shading into the olive-brown above; flanks crossed with white and black or brownish-gray; belly, white; under-tail coverts rufescent. The young have the markings, especially those about the head, somewhat obscure.

These Rails may move with prolonged and steady flight, sometimes in flocks, spending the winter in the Southern States and beyond. They have alighted on vessels far out at sea.

In this genus *Porzana*, distinguishable from the genus *Rallus* principally by the shortness of the bill, are the Yellow Rail (*Porzana noveboracensis*) and the Black Rail (*Porzana jamaicensis*). They are both very small, about 5.00-6.00 long, the latter being an extremely southern species, in fact, belonging more particularly to Central and South America, and the former a rather rare one of Eastern North America, sometimes going as far north as Hudson's Bay. It is occasionally found in Western New York. The general color is blackish, marked or varied with ochery-brown, the narrow white edges of the feathers appearing like semicircles, while there are also narrow transverse bars of white, the breast being ochery-brown and becoming light on the belly.

Audubon reported this little Rail as abundant in the extreme Southern States, but it is now regarded as rather rare throughout its range. The above author gives its nest as made in a tussock of grass, and its eggs as white. Dr. Coues describes a set of the eggs in the Smithsonian Institution as "rich, warm, buffy-brown, marked at the great end with a cluster of reddish-chocolate dots and spots. Size $1.15 \times .85$ to $1.05 \times .80$."

The rare eggs of the little Black Rail, which have been found as far north as New Jersey, "are creamy-white, sprinkled all over with fine dots of rich, bright, reddish-brown, and with a few spots, of some little size, at the great end. * * * Dimensions $1.05 \times .80$."

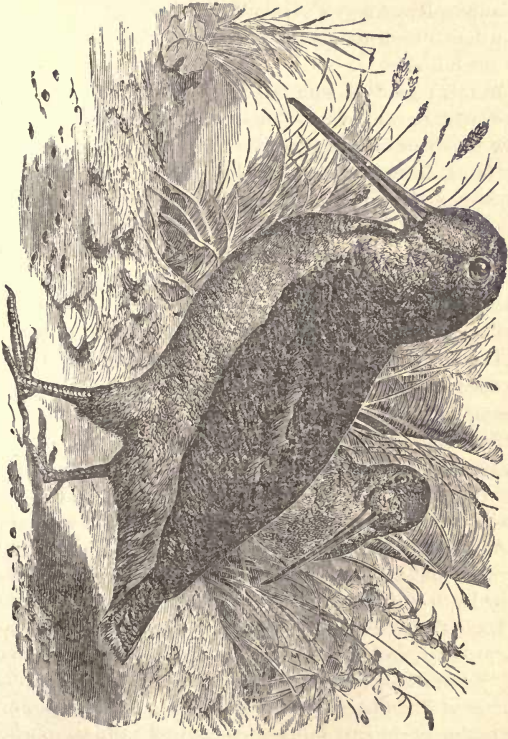
The head and under parts of this bird are grayish-black, the upper parts black, speckled with white, the lower neck and upper back being dark chestnut; feet, yellowish-green.

The general habits of these two species would seem to be like those of the rest of the family.

THE WOODCOCK.

As I traverse this marsh about Burnt-ship Creek, on these hot, dry days of late August, I every now and then start up a Woodcock. Rising a little above the tops of the grasses, it appears but for a few seconds and then drops out of sight, so that it requires a remarkably quick and good aim to shoot it while describing its short and sudden curve, slow as its flight appears. Probably no bird is so well known to the sportsmen of Eastern North America as the Woodcock (*Philohela minor*). Its flesh is in great requisition for the table, and, as it shelters itself closely, lies well to the dog, and affords a tempting shot on the wing, its capture is a most agreeable excitement. Its habit, too, of changing place according to the weather makes the finding of it a

THE WOODCOCK.



study; while its sudden appearance in large numbers, or its entire disappearance all at once, gives its capture the air of chance. Reaching Western New York about the first of April, this bird resorts to the swamps, low woods, thickets, or the hill-sides.

In this region the nidification of the Woodcock occurs in the latter part of April. The nest is on the ground, in some low woods or thicket, sheltered by a bush, or bunch of grass, or ferns, is formed, quite indifferently, of dried leaves or grasses, and contains four or five eggs, some 1.51×1.19 , and much more oval than the eggs of allied birds. They are a light creamish-brown, pretty well spotted, especially around the large end, but not heavily blotched with reddish-brown and lilac. I have now in my possession an egg of this species which is almost round.

The young, nearly the color of brown chickens, run about as soon as hatched. When in Nova Scotia last June (1883), riding with a friend through a rather open woods, about the 15th, a female Woodcock rose from almost under the carriage wheels. Looking down I spied five half-grown young ones squatting motionless within a few feet of the wheel-track. Stopping the vehicle, I jumped out and went almost near enough to touch them, when they rose and left in haste, about as well able to fly as the parent. How did they learn to "play 'possum" in this manner?

How the Woodcock feeds in the dusky twilight, or at night; how neatly he bores the soft ground in quest of earth-worms, or turns the leaves in search of his food; what immense quantities he consumes; how he changes place, from the swamp to the woods, to the hill-side, or to the grain-fields, according to the weather or the season; how he leaves us for the south when frosts set in—all this has been frequently and well noted alike by the ornithologist and

the sportsman; while the manner in which his haunts have been studied and scoured with dog and gun, merely to gratify the palate, or the love of shooting, is too well known to need either note or comment, except by way of earnest deprecation.

The shape of the Woodcock is unlike that of any other bird. Some eleven or twelve inches long—the male being quite a good deal less—with a bill nearly three inches long, and deep and strong at the base, his legs and tail uncommonly short, his whole body, including head and neck, thick and bulky, and his large black eyes so near the back of his head, complete the oddness of his personal appearance. On the whole, he makes one think of a short, thick man in a swallow-tail coat; and his eyes are so placed that he can see above and behind about as well as before. Did the Creator locate his eyes in anticipation of the merciless manner in which he is hunted down? The Woodcock is far from being unpleasing, however, in his general appearance. The light chestnut feathers of the under parts, delicately fringed with lighter; the white patch on the throat, shading into the adjoining tints; the bright drab on the head, the sides of the neck, and mixed in with the fine pencilings of wings and tail; the velvety black from the eye to the mouth, and below the former, on the back of the head, and adown the back, scapulars, and tail, all so finely tipped and penciled with drab and light red as to appear fairly illuminated—all these render the bird an object of no common beauty.

Differing from the European Woodcock in size—being $\frac{1}{3}$ less, also in marking and in structure, particularly in the narrowness of the first three primaries, our Woodcock is a common bird of the Eastern United States, and extends quite commonly, as a summer resident, into New Brunswick and Nova Scotia. Audubon did not find it in Newfoundland

and Labrador, but was told that it bred in the former province. Though found in the middle districts, even to Southern New England, in winter, this species generally finds its home at that time in the sunnier climes of the Southern States, and even there it is said to almost disappear, in any locality, on the occurrence of a sharp frost. It also breeds quite commonly in most, if not in all, parts of the south.

THE PIGEON HAWK.

On the 28th of August, as my friend and I are seating ourselves in the boat for a trip to Chippewa, Ontario, I have no sooner removed the caps from my gun, for the sake of safety, than a pair of beautiful Pigeon Hawks (*Falco columbarius*) make their appearance. First the one and then the other hovers over us, just near enough for a good shot, but before I can get ready they are gone. How provoking! Moral—be always ready for a shot. *Columbarius* is, for the most part, simply a rather common migrant in this locality, though I am inclined to think a few breed here, as they are supposed to do in Eastern Massachusetts. With notched and toothed mandible, long pointed wings, having the outer pinions narrowed on the inner vanes, tarsus more or less feathered above, after the manner of the genus *Falco*, this bird is 11–12 inches long; extent, 24.00; wing, 8.25; tail, 5.50; bill, .75; the male, the smaller, after the manner of the birds of prey, is dark bluish-slate above, every feather having a shaft-line of black; primaries black, tipped with whitish; tail, light bluish-ash, nearly white on the inner webs, tipped with whitish, with a deep subterminal band, and several other narrower bands of black; forehead and throat white; under parts and wing-linings, pale buff, streaked with brown. Female similar, but tinted with brown above, and having larger and darker markings below.

Following them in their migrations, *columbarius* subsists mostly on the smaller birds, capturing them on the wing. His northward movements are in April, and his southward in September and October. Ensconced away in the bushes, you may witness his deadly chase, as with astonishing speed, darting to the right and left, he pursues some Thrush, Sparrow, or Blackbird, or even a bird near his own size; striking his claws into its vitals, on overtaking it, and devouring it near the place of capture. He does not hover like the Sparrow Hawk. Always taking his prey alive, he prefers an open pasture or grove for his swift pursuit. Here he may sit on his perch quietly awaiting his victim, and if he change place, flying up a little when about to alight, he will turn about and face his late site or route, and presently dropping down, skim the ground almost as low as a Buzzard; not in the same sailing manner, however, but with frequent and nervous strokes of the wings. When, occasionally, he does sail, it is in an uneasy, tipping style, which distinguishes him almost as readily as does the mottled appearance under his wings. When he is satiated with his prey, his destructiveness ceases; and those birds which are usually his victims may disport themselves around him in perfect safety.

The Pigeon Hawk's general breeding place is to the northward. The nest, which may be on a rock, but more commonly in the hollow of a tree or in its branches, is made of sticks and grasses; sometimes strips of bark are added, the lining being of moss or feathers. The eggs, 4 or 5, some 1.65×1.30 , are sometimes quite roundish, and again even elongate-oval. "Coloration ranges from a nearly uniform deep, rich brown (chestnut or burnt sienna), to whitish or white only, marked with a few indistinct dots of dull grayish or drab." (Stearns.)

THE GREAT BLUE HERON.

In the late dusk of evening, we are sure to see a pair of Great Blue Herons (*Ardea herodias*) pass up the river, but a few rods out, and alight in the shallow margin of the river just above our tent, thus affording a good view of a very shy bird. They present an odd figure, as with enormous spread of wings, legs dangling far out behind, and neck extended, they fly just above the surface, hanking somewhat after the manner of Wild Geese. Sometimes they may be seen on this same spot in the clear light of early morning, wading about and seizing and swallowing their prey, apparently without the least circumspection; sometimes standing at ease on one leg, the other being drawn up, and the long neck folded closely on the breast, while the eye gazes intently into the water. Quick as thought the attitude is changed. The body is thrown forward and the neck extended, while the head darts into the water; the ill-fated fish which he brings up, impaled on his long, pointed mandibles, disappears down his capacious gullet with a few jerks of the head. How graceful is every attitude and motion of this gigantic bird. And yet, when slain, how ungainly he appears. Some 4 feet and several inches from the tip of the bill to the end of the tail, and a foot longer from the tip of the bill to the ends of the toes, the general color is a delicate bluish-ash, the neck slightly tinged with brown, and having a spotted or streaked throat-line adown the front; the long, slender, almost thread-like, scapulars and lower feathers of the neck, white; plumes of the head, of which two, in the mature state, are long and filiform, black; crown and throat, white; thighs and wing-shoulders, brown; under parts, black, streaked with white; eyes and bill, yellow. Male and female are alike, except that the latter is smaller. The young are similar, lacking



THE GREAT BLUE HERON.

the long ornamental feathers, and having the neck spotted.

As this bird rises out of the water, it seems immense, and requires many strong beats of its wings before obtaining an easy flight. Once well on the wing, it moves majestically, with a firm and regular stroke of the great wings, the neck folded into a big lump, and the long legs extended behind like an immense tail. Occupying, in summer, "entire temperate North America," it ornaments the landscape of Nova Scotia and New Brunswick about as commonly as that of the Middle States, and occasionally puts in an appearance even as far north as Hudson's Bay; thus differing from the Herons in general, which incline to the tropics and warm, temperate regions.

The food of *herodias* is fish, for the most part, but may consist of frogs, mice and insects. Commonly breeding in communities, sometimes singly, however, the nests are generally placed in the tops of tall trees, often in swamps almost or quite inaccessible, and often in immense numbers. Sometimes the communities of nests are placed in pine forests some miles from any swamp or body of water, or they may be near, or even on the ground. Along the Colorado River, where there is a lack of the large trees necessary to support the immense bulk of the nest, these Herons breed on the ledges of the gigantic walls of the canons. In the Southern States Audubon often saw them on cactuses.

The nest, some two feet in diameter, is of the platform style, the lower part of sticks, the surface of a rather thick bed of grasses, weeds and mosses. The eggs, two or three, are about 2.50×1.50 , elliptical, clear pale-greenish. These Herons often fly immense distances to their feeding grounds, and having selected certain places, seem to adhere to them

throughout the season. In the Southern States, where these birds spend the winter, they often congregate in great numbers. Here they also breed abundantly early in the season.*

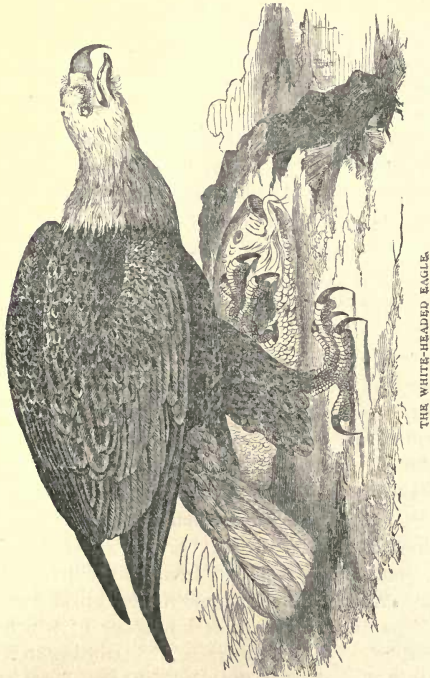
THE WHITE-HEADED EAGLE.

As in the days of Wilson, the White-headed Eagle (*Haliaeetus leucocephalus*) is still a common and characteristic bird of Niagara River throughout the year. Now, as then, he may be seen soaring majestically in the great cloud of spray ever rising from the cataract, or reconnoitering the rapids, rushing along the sublime gorge, in search of the ill-fated animals or birds which have perished in these waters; or sailing serenely above the broad and beautiful expanse of the river, from Queenstown Heights, to Lake Ontario. Not infrequently he appears in the vicinity of my tent, alighting in the adjoining grove, or flying low over the troubled waters.

In appearance at least, this is, perhaps, the most magnificent bird of our continent. Closely allied to the Buzzards, both in structure and in grandeur of flight, his rich, dark-brown figure, adorned with snow-white head and tail, is simply incomparable, while his great size and gigantic spread of wings give him a peculiar majesty, whether he beat the air in regular strokes, or sail in sublime repose. Look at him, and reflect on human imbecility, as he soars into the heavens, till he becomes a mere speck against the ether! Imagine the extent of landscape of which he has in very deed a "bird's-eye view." According to Audubon he can sail entirely out of sight without a single stroke of the wings.

* Similar to the former species, but several inches longer, and proportionately larger every way, is the Florida Heron (*Herodias wurdemanni*). Its habits, too, are quite similar. Its habitat would seem to be the Florida Keys; possibly it strays, occasionally, to the mainland. "Known from the preceding species by the naked tibia; white-top to head; black forehead, and white under parts." (Maynard.)

Next to the Osprey, in his preference for a piscivorous diet, he is ever to be associated with great bodies of water—broad rivers, immense lakes, and the roar and foam of the



ocean. Unlike that noble bird, however, he does not generally plunge into the wave for his prey, but is content with the carcasses which float upon its surface. In the absence of fish, he is satisfied with any animal food, and that, even in

the condition of carrion. Many graceful evolutions have I seen him perform over the putrid carcass of a horse, floating down the river. He has another noted habit, which not only betrays a low taste, but a flagrant dishonesty—that of pilfering the hard-earned prey of the Fish Hawk. Mark this king of birds, so high uplifted above all others of his kind, that he seems enthroned among the clouds. One would think him wrapt in the sublimest meditations, and all unmindful of the hosts of feathered tribes which occupy the ground and the different strata of the lower air; but, lo! no sooner does the Osprey emerge from the waters with his struggling prey, than that piercing eye detects him from afar, and swoops upon him with terrific speed; and, notwithstanding the swiftness and the splendid evolutions achieved by *Pandion*, he is soon so sorely pressed as to be compelled to drop his prey and make off, saving nothing but his disgust and indignation, which are not infrequently expressed by strong and significant cries. Meanwhile the fish has scarcely escaped the talons of the Fish Hawk when it is grappled by those of the Eagle and borne away for destruction.

It is decidedly against my inclinations to disclose these unseemly facts concerning the Eagle, especially as he has become the symbol of our great nation; but as a narrator of facts in natural history, I cannot be excused. The truth is, that in niceness of habit, our sublime bird is by no means the equal of many of his kindred *Raptors*; and, while in general appearance he may fitly represent the glory of a nation, on account of the manners above named, he is by no means altogether suggestive of noble principles. Nor is he always brave. Hence Dr. Franklin was not wholly in favor of his adoption for our national seal. Sometimes, however, glaring faults are quite thrown into the shade by

great virtues and gigantic proportions of character. In later years, the history of a certain individual of our *Haliaeetus* has fully vindicated the adoption of the Eagle to symbolize the national glory of the United States, as well as the adoption of its kind, for a similar purpose, by various nations from the most ancient times, including Rome and France. The famous Wisconsin Eagle, called "Old Abe," has a history which fills a volume, and justly renders him immortal. Taken, by the son of an Indian Chief, from a nest in the northern part of the State, where an extensive network of lakes and streams find their outlet, in the Chipewa River, and reared by the same, he was sold, when two months old, to a resident of Eau Claire, in August, 1861, for a bushel of corn. This gentleman afterward sold him to the Eighth Wisconsin Infantry. He was formally sworn into the service, provided with a perch and bearer, and passed three years in the hottest of the late war; and passing through 36 battles and skirmishes, was brought back by a mere remnant of his company, to his native State, unharmed. The intelligence he evinced in this grand career was surprising. Avenging every insult, or even unwarrantable liberty, in the most signal, and sometimes ludicrous, manner, he recognized friends with the utmost appreciation; seeming to understand and sympathize with every movement of his regiment. He would drop from his perch, when the men lay down under a heavy firing from the enemy, and mount it again when they rose. He would whistle in expression of approval, and flap his wings at each round of cheers or peal of music; and, snapping asunder the cord which bound him to his perch, would soar above the smoke and din of battle, cheering his regiment with loud and most significant screams; and afterward alighting on its standard, would seem to participate in the joy of victory. After his

return from the battle-field, he was on exhibition in various places where funds were being raised for suffering soldiers and their families, and by September 25th, 1865, had been the means of securing a fund of \$25,000. The sum of \$20,000 has been offered for him, and at the Centennial Exhibition of 1876, at Philadelphia, he was an object of universal admiration. Here he would stand on his perch in such perfect repose as to puzzle a stranger to determine whether he were a living bird or a specimen of taxidermy. In this attitude, he reminded one of one way in which the Eagle generally spends much of his time, namely, perched on some conspicuous limb of a tall tree by a large stream or body of water, and remaining as motionless as if wrapt in profound meditation. We regret to say that Old Abe has recently passed away.

The White-headed Eagle is about 3 feet long; body dark-brown, tinged with golden, many of the feathers being elegantly tipped with golden-yellow, strongly contrasting with, and delicately shading into, the darker parts; head and tail, snow-white; eyes and feet, bright yellow. The epithet "Bald" has no foundation except in appearance, as the head is well covered with long, pointed feathers. The young have little or no white, and reach the mature plumage about the third year, or in some instances, it is thought, not till some ten years. According to Coues, "the immature birds average larger than the adults; the famous 'Bird of Washington' being a case in point."

In structure and in general appearance the Eagle must be regarded as the most perfect ideal of the birds of prey. In repose or in motion, gracefulness, combined with strength, is expressed to perfection. Whether associated with the gliding stream, the placid lake, the tempest-tossed ocean, or the rugged mountain, he is ever a grand ornament to the landscape.

The nest from which "Abe" was taken, found on a pine tree near some rapids in a curve of the Flambeau River, and big as a washtub, made of sticks, turf and weeds, and removed to the Indian village to rear the young bird in, which served as a plaything for the papposes, may be regarded as representative of the Eagle's nest in general. The two eggs, about 3.00×2.50 , are a dull white, and are laid very early in spring, probably not later than the latter part of March or the first days of April. In Michigan, I have seen the young nearly as large as their parents, and about ready to leave the nest by the last days of May. A curious instance of nidification on the part of this species was recently described to me by Mr. Herbert Macklem, of Chippewa, Ontario.

On the bank of Niagara River, and owned by this gentleman, was a farm which had not been occupied for several years, and which was some miles distant from the nearest residence. A missing board from the end of the barn giving access to a large quantity of straw in the mow, the Eagles had arranged a nest there, which contained young when discovered by the owner of the property.

The solicitude of the Eagle for its young cannot be surpassed even by that of the human species. One or the other of the parent birds seems to be constantly reconnoitering the neighborhood of the nest; and, on the least approach of danger, they fly about with a most nervous and excited beat of the wings, yelping like young puppies. Every now and then they will alight in a tree by the nest, very soon to drop down in an angry swoop toward the intruder.

As an instance of the attachment of the parent bird to the young, Wilson gives the following: "A person near Norfolk informed me that, in clearing a piece of wood on his place, they met with a large, dead pine tree on which was

a Bald Eagle's nest and young. The tree being on fire more than half way up, and the flames rapidly ascending, the parent Eagle darted around and among the flames until her plumage was so much injured that it was with difficulty she could make her escape, and even then she several times attempted to return to relieve her offspring."

The White-headed, or Bald Eagles, common to all North America, and mating, in all probability, for life, are resident throughout the year wherever the streams and bodies of water are sufficiently open to afford sustenance. Eagles in general have a remarkable longevity, reaching a hundred years or upwards, even in confinement. This one, as well as certain others of the world, is said to attack young children occasionally. Wilson cites "a woman who, happening to be weeding in the garden, had set her child down near, to amuse itself while she was at work, when a sudden and extraordinary rushing sound, and a scream from her child, alarmed her, and starting up, she beheld the infant thrown down and dragged some few feet, and a large Bald Eagle bearing off a fragment of its frock, which being the only part seized, and giving way, providentially saved the life of the infant."

FORT ERIE.

Changing the location of my tent to the government grounds of Canada, near the remains of old Fort Erie, opposite the city of Buffalo, I spend many days watching the Shore Birds in their migrations. It is a beautiful spot, fanned constantly, during these last days of dry summer heat, by the most refreshing lake breezes. Here, too, where once was all the roar of artillery in war, and in later times all the rumble of a grand railroad terminus now removed, it is most delightfully quiet. To the westward I look out upon the broad expanse of Lake Erie; in the southern hori-

zon rise the distant mountains towards Pennsylvania; and directly east is the city with all its mingled scenery. In the morning a dense fog along the river and lake, like a thick curtain, may shut off the view of the city entirely, the din and noise of the great stirring community seeming only the nearer for this obscurity. Later in the day the air and sky are clear, beautiful and balmy; in the twilight, the harvest moon hangs like a great fire-ball over the center of the city; and in the evening, the lights of streets and dwellings mark out a complete outline of the town. Day and night I listen to the voices of the birds, most of which are described elsewhere in this work. I have many fine views of the earlier migrations of the land-birds, but am specially interested in the movements of the little Waders, the different kinds of which are about as well represented here as they are on the sea-coast.

In the last days of August a flock of some nine of the Red-breasted Snipe (*Macrorhamphus griseus*) appears, sometimes called Gray Snipe, Brown-back, or Dowitcher. It is some 12.00 long and 19.00 in extent, the legs long, and the bill precisely like that of the Common Snipe; in summer the general color is dark-brown, the feathers edged with reddish; underneath dark-red, edged and mixed with dusky; tail and coverts banded with black and white. In winter, gray above and on the breast; the belly, eye-brow and lower eye-lid, white. It is always distinguishable by its white shaft in the outer primary. The nest is after the manner of the Snipe, the eggs also being similar in color, and about 1.65×1.12 .

About the same time, and for some six weeks later, an occasional flock of the Pectoral Sandpiper (*Tringa maculata*) appears. Some 9.00 long and 16.50 in extent, the upper parts are dark brown, the feathers generally edged or tipped with yellowish or reddish; the brown tail, being darker in

the center, is tipped with white or whitish; the neck, breast and sides, yellowish-gray, with dark streaks; legs greenish. The breast marking is differentiating. It is sometimes called the Jack Snipe.

Of very frequent appearance during these days is the Sanderling or Ruddy Plover (*Calidris arenaria*). Some 7.50 long, it has the rather short, straight, grooved bill, and the plain-colored tail of the Sandpipers. The upper parts are light ashy, streaked with black, and edged with reddish in summer, but not in winter; the under parts, from the neck, are pure white, making each member of the flock a gleaming white point in the landscape, as it tips up in flight. This Beach-bird, as it is often called, is rather silent, appearing singly or in flocks. Its flight is beautiful, and it walks, wades and runs most gracefully on the shore. These Sandpipers, like their relatives, breed far to the north.

On a gray October day, a flock of some half-dozen little Brown Titlarks (*Anthus ludovicianus*) alights in the shallow water on the rocks and wash themselves. Some 6.50 long, ashy-brown above, tinged with olive, the centers of the feathers darker and the edges lighter; the outer tail-feathers white; the eyelids, curved line on the cheeks, and under parts, brownish or creamy-white; the breast and sides streaked with dusky-ash. This dainty, dove-like walker, having a peculiar jerking, tossing motion of the tail, breeds in Labrador and northward, and down to Colorado in the Rocky Mountains. The 4-6 very dark-colored eggs are laid "in a mossy nest on the ground." This bird passes us early in May in its northward migration, and in October southward.

NIAGARA RIVER AND THE DUCKS.

Niagara River is a good place to study the Ducks in the times of migration, or even in the winter. As it does not

freeze over, some species remain from fall till spring. In March, or early in April, about Grand Island, Buckhorn and Navy Islands, the Golden-eye, or Whistler, is one of the characteristics of the locality. It may be seen in fair-sized flocks, or in immense ones of many hundreds, diving about feeding places, after its usual manner of obtaining its favorite cray-fish, the claws and other remains of which are always to be found in its gizzard; to which diet it may add small mollusks, frogs, tadpoles and fishes. When thus engaged, and not in fear of molestation, they are indeed a merry company, the very picture of soul and energy, and thrifty contentment, each one staying under the water a half minute at a time and remaining above only about seven seconds. What a charm there is in watching a Duck dive! Every pulse of the observer is quickened as the sprightly creature plunges under. Very frequently the whole flock is under the water at once. Generally several sentinels remain on guard. Every now and then, on coming up, the male will throw up his head and utter a low, guttural chuckle. This is probably his courting note, and is the only vocal performance one hears from these birds during their stay. They like to dive in swift currents for their food, and then gradually work upward in the stream. They are particularly at home in streams and rivers, and visit the smaller as well as the larger currents. The Golden-eye decoys well, especially any stray one which may be flying about; but it is exceedingly shy and keen-eyed. When the shot misses it on the water, or it is suddenly alarmed, it dives readily, darting out of the water in a few seconds with surprising velocity. It is one of the swiftest of all the Ducks in flight. Audubon estimated its speed at ninety miles an hour. One is always advised of its flight by the sharp whistling sound of its pointed wings,

which are almost of metallic firmness. *Choo-choo-choo-choo-choo-choo*, given as rapidly as possible, may recall the startling sound, which soon becomes very familiar, and may be heard distinctly some half a mile or more. The beat of the wings is so rapid that, as the bird flies from you, the white secondaries form a hazy semicircle on each side of the dark posterior of the body, the black primaries adding still larger semicircles beyond. When flying past, the oval spot of white at the base of the bill of the male, contrasting with the dark, glossy green of the head, and the white neck, the body being black above and behind, readily differentiate the species. The female, having a dark-brown head without the spot at the base of the bill, and having a light-gray neck and darker gray or dusky pectoral band, is known by her relation to the male, and is much smaller than her more striking consort. The body is short, the bill short and stubbed, almost as nearly like a lamb's nose as a Duck's bill, and the head is rather thick. The golden-yellow iris is a striking mark of the bird, and the orange feet with dusky webs soon become familiar to the eye. The food of this species is such as not to render it a favorite on the table, though it is generally eaten. Diminishing in numbers already in the middle of April, a few linger in New York as late as the 20th of May; and except in the case of stray birds, the breeding place is far to the north. Mr. Fortiscue reports it as breeding in trees along Nelson River, and it is said to breed in a similar manner in Newfoundland and in Northern New England. The 6-10 eggs, spherical and ashy-green, are some 2.38×1.78 . The annual range of the common Golden-eye (*Bucephala clangula*) is throughout North America and Europe.

Barrow's Golden-eye (*B. islandica*) is now well differentiated as a closely-allied species. For this conclusion much

credit is due Dr. Gilpin, of Halifax, N. S., whose patient investigation was so satisfactory in its results. The data of determination are: 1st, difference in size; the common Golden-eye (the male) being some 19 or 20 inches in length, while Barrow's Golden-eye is several inches longer; 2d, marked difference in the shape of the bill and head; that of *islandica* being noticeably high at the base, short and pointed; 3d, in marking; the white spot at the base of the bill in *clangula* being oval, while it is triangular or crescent-shaped in *islandica*, with a difference also in the wing markings; 4th, and, particularly, in the shape of the trachea; the peculiar and irregular enlargement so marked in *clangula*, being much moderated in *islandica*. (See "the Golden-eyes or Garrot's in Nova Scotia," by Dr. J. Bernard Gilpin.)

Islandica was first found in the Rocky Mountains, but has since occurred frequently on the Atlantic Coast in winter, even as far south as New York.

THE LONG-TAILED DUCK.

Most common, from fall till spring, on the Niagara River, is the sight and sound of the Long-tailed Duck (*Harelda glacialis*) *alias*, Old Wife, South-southerly Coween, or Ha-ha-we, as the Indians at Hudson's Bay call it. Though almost useless for the table, on account of its molluscous and fishy diet, its beauty and individual peculiarities always render it an object of interest to the sportsman. Its body, so short and thick that it is almost round, bill unusually short and small, neck thick, and central feathers of the tail long, the form is well characterized; the black bill banded with orange near the tip; the iris of bright carmine; the head and neck well down upon the back, white; cheeks and forehead of light drab running into a large black patch on the sides of the neck, which patch shades again into brown;

breast and upper parts, except the dark chestnut secondaries and bluish-white scapulars and tertiaries, elegantly elongated, black; pointed tail feathers, except the four elongated central ones, and under parts, white; sides, light drab; feet and legs, dark slate—all these striking contrasts in color render the male, in winter plumage, conspicuous and beautiful. In summer the head and neck become dark, and the scapulars and tertials black, edged with chestnut. Late in April or early in May, some may be found scarcely changed from the winter habit, and others may be almost conformed to the summer dress.

The female, with shortened tail feathers, being but 16.00 long, is grayish-brown, many of the feathers being edged with whitish; spot around the eye, sides of the neck and breast, grayish-white, the latter becoming clear white on the belly. In winter the head and neck of the female may be nearly white. This species spends the winter as far north as ice and snow will permit, and is our only Duck which, like certain other birds and certain animals of the north, whitens with the winter and becomes dark again in summer; hence the propriety of its name *glacialis*, or *hiemalis*, meaning Winter or Ice Duck; and the name commends itself to us especially, as we see it swimming and diving, as if perfectly at home, in the midst of floating ice and driving snow-storms.

Its feet placed far behind, an accommodation in diving, it keeps to the deep channels of the river, drifting down the rapid current as it dives deep down incessantly for its food, and then flies up the river to test the ground over again. The third day of last April (1882) was one never to be forgotten. Perfectly calm, and with a cloudless sunshine, the air was so warm as to cause a white vapor over the whole surface of the river, rendering the scenery just above Niag-

ara Falls particularly soft and beautiful. Above the monotonous roar of the cataract, and loud and clear in every direction, could be heard the peculiar notes of the Old Wives; and as they were very numerous, the rather musical clamor was quite impressive. Now a flock would appear at one point, whitening the river and making the air resonant for many rods around them; and then, as they disappeared beneath the smooth, silvery current, another flock, emerging in the vicinity, would attract equal attention. At any time many flocks might be within range of the eye. Nothing in the way of sound could be more strongly characterized than the vocal performance of this bird. To my ear it does not recall the common name "South-southerly," given it on the Atlantic Coast, but is well expressed by an epithet given it by the Germans about Niagara River, who call it the "Ow-owly." *Ow-ow-ly, ow-ow-ly, ow-ow-ly*, frequently repeated in succession, the first two notes considerably mouthed, and the last syllable in a high, shrill, clarion tone, may suggest the queer notes to any one whose ear is familiar with them. Not infrequently the last syllable is left out of the ditty, the bird seeming somewhat in a hurry, or the note becomes a mere nasal *ah, ah, ah*, rapidly uttered. The great enlargement in the wind-pipe of the male has been supposed to account for these loud tones; but the female, which is regarded as much the noisier, is without that peculiarity. Always accounted a sea Duck, and not reported by Coues from the northwest, it would appear rather strange that it should be so common on the Great Lakes, unless we regard this region as the winter habitat of those spending the summer about Hudson's Bay. It will not always decoy for the sportsman, but with a little caution he may row or drift upon it near enough for a shot, and as it flies but a short distance when alarmed, and then drops

into the water again, he may continue to steal upon the flock till he has satisfied his disposition for slaughter. Mr. James Fortiscue, my very interesting correspondent at York Factory, Hudson's Bay, says that in that locality these birds breed "on islands in lakes."

The nest is similar to that of the Scoters; the eggs, about 2.12×1.56 , being "pale, yellowish-green."

Wintering with us as far south as New Jersey, this species ranges throughout the northern hemisphere.

THE RED-HEADED DUCK.

On the 30th of March (1882), while Niagara River was lashed into a tempest by a raw west wind, I saw from the north side of Buckhorn Island a flock of hundreds of Red-heads (*Fuligula ferina*) riding down the middle of the current in the most perfect repose. Nearly every one had the head resting on the back, the bill under the scapulars. Only occasionally was there one which seemed to act as sentinel. Several Widgeons also, whose white crowns rendered them quite conspicuous, were in the flock. There was something very impressive in this long line, many abreast, of living creatures, rocked and tossed on the foaming breakers, and yet reposing as sweetly as if on some quiet inland lake. Long did I scan them, and much did I admire them, as the field-glass brought them just before me.

A more complete study of these interesting Ducks was reserved for me, however, on St. Clair Flats. Here they are very abundant in the migrations, and not a few remain to breed. In the bright, hot days of June, small flocks may be seen diving leisurely for food, along the deeper and more rapid channels, thus procuring their fare of small mollusks and fishes, the larvæ of aquatic insects, and the roots and leaves of certain aquatic plants. Not infrequently the

males are quite noisy, loudly uttering their deep-toned *me-ow*, which is the precise imitation of the voice of a large cat. The female, especially, if rising from her nest or out of the water, has a loud, clear *squak*, on a higher tone than that of the Mallard or Dusky Duck, and so peculiar as to be readily identified by the ear, even if the bird is not in sight. The gray aspect of the wings in flight is also very characteristic of this species. The nest is generally built in the thick sedges over the water, and consists of the leaves of the cat-tail and of various kinds of marsh-grass, a slight lining of down being added as incubation proceeds. The eggs, generally about 9 or 10, but sometimes as many as 15, some 2.45×1.75 , are nearly oval or oblong-oval, having a very smooth, firm shell, and being of a rich light-brown tinge, sometimes slightly clouded; scarcely if ever tinged with blue or green. When moistened a little and rubbed with a dry cloth, they are susceptible of a high polish. The young, in the down, has the crown of the head and the upper parts, generally, of a clear, olivaceous green, the cheeks and under parts, bright yellow. The eggs are fresh, or nearly so, the first week in June.

A stately and beautiful bird indeed is the male, as, with head well up, he rides upon the water. A little over 20 inches in length, the bill, which is about as long as the head and rather broad, is blue, shading into dusky or black at the tip; the male has the head and more than half of the neck brownish-red, with a violaceous gloss above and behind; the lower part of the neck, the breast, upper and lower parts of the back, black; beneath, white sprinkled with gray or dusky; sides, scapulars and space between, white and black in fine wavy lines of equal width, giving a gray effect in the distance; wing-coverts gray, specked with

whitish; speculum, grayish-blue; iris, orange. Female similar, with the head and neck grayish-brown, and the breast more or less mixed with gray or whitish.

Resembling the Canvas-back, it is quite distinguishable by its shorter, broader bill, depression at the base of the bill, absence of black on the head and back of the neck, and broader lines of black in the penciling of the back. Abundant on the sea-coast of the middle districts, but becoming less common northward and southward, it breeds in the interior northward, moving southward in October, and returning north late in March or early in April.

THE CANVAS-BACK DUCK.

Perhaps the most celebrated of all American water-fowl, to the sportsman and to the epicure, is the Canvas-back Duck (*Fuligula vallisneria*). Lacking the brilliancy of the Wood Duck, and the striking contrasts in color of certain others of our fresh water Ducks, nor possessing the diving accomplishments and the wealth in down of the Eider, its great desideratum and interest consists wholly in its flesh, supposed by many to possess a peculiar juiciness and delicious flavor, especially after having fed for a time on its favorite *vallisneria*, a fresh water plant, very abundant in the waters of the Chesapeake and its tributaries, and also in the Susquehanna. Some think, however, that "the fine flavor which the flesh of these Ducks is said to possess is probably due partly to the imagination of those who pay high prices for the privilege of eating it," its flesh being even "dry and fishy" when it has been deprived for a time of its favorite food, and obliged to resort to the more common bill of fare for most other Ducks—small mollusks and fishes, with an occasional tadpole or leech.

About 2 feet long and 3 in extent, the high crown

slopes gradually with a slight curve upward to the tip of the rather long and narrow bill, thus strongly characterizing the head as compared with that of other Ducks. The bill is greenish-black; at the base of the bill, on the crown, and down over the back of the rich brownish-red head and neck, is a dusky effect, deepening into fine black in the zone about the breast and upper back; upper parts and sides, white, or grayish-white, with delicate zigzag cross-pencilings of black; secondaries darker, but similar; underneath, white; posterior, dark; feet, bluish; iris, carmine. The female is similar, with colors less bright, and markings less distinct.

Diving deep with utmost readiness, swimming rapidly, straightforward and swift in flight, and exceedingly wary, this species is not easily captured. Rare in New England, and not abundant in the extreme south, its chief winter resort is that famous rendezvous of water-fowl from fall till spring—the Chesapeake Bay with its many rivers. How the Canvas-back is shot here in immense numbers—as well as hosts of other Ducks—from points during flight, by “tolling in” with the aid of dogs running up and down the shore, and thus enticing the birds in from curiosity, from batteries and by paddling stealthily upon them during the night, many writers, among sportsmen and ornithologists, have fully described. Very exciting, indeed, it must be to lie concealed on shore, and see the “rafts” of Ducks slowly enticed in, while the little bright-colored dog, aided, it may be, by a red or white handkerchief tied to his tail, runs up and down the bank; or to watch the floating decoys from the box-like battery, sunken to the water’s edge far out from shore, and then to fire into the immense flocks, hovering or alighting, as they fly up and down this concourse of waters! The latter mode, however, would seem to be too much like

slaughter, to be approved by that gallant sportsmanship, which always seeks to give the bird "a chance for its life."

The great thoroughfare of the Canvas-back in migration, like that of many of our river Ducks, is along the interior of our continent; and its breeding habitat is in the great northwest, especially about the cool waters in the higher latitudes of the Rocky Mountains and vicinity.

Early in spring or late in the fall, or perhaps even in mid-winter, it is sometimes taken on Niagara River, and for a short time in the spring and fall migrations it is common on St. Clair Flats. This is particularly an American species, resembling, however, our Red-head and the European Pochard.

THE RUDDY DUCK.

Common, and sometimes abundant, on Niagara River during the migrations, is the Ruddy Duck (*Erismatura rubida*). An anomaly of its kind is this little creature. Some 15 long and 21.50 in extent, it has a peculiarly short and almost round appearance; the long and gradual curve of the crown, joined to a bill rather short, broad and much depressed, is a marked feature; the rather long and broad tail, with scarcely any coverts above or below, is decidedly out of order for a Duck; the broad tip of the wing, so apparent in flight, would seem more in place for a Coot or a Gallinule; the striking seasonal change of plumage in the male would do for a Gull or a Grebe; the large egg, with granulated shell, might be mistaken for that of a Goose; while its diving propensities would do credit to a Dabchick.

Look at that elegant male, as he floats on the smooth surface of some fresh-water channel in the breeding season! Almost as motionless as a wooden decoy, he holds his large and full spread tail straight up, often catching the wind just in the right direction, and thus using that appendage

for a sail. Jet-black over the crown and down the back of the neck, cheeks clear white, the remaining upper parts a bright, glossy dark-red, he is a well-defined object even in the distance. The female—which the male resembles precisely, from fall till spring—is a dark brownish-gray, the throat and broad stripe through the eye lighter, both sexes being white, or white mottled with gray, underneath. The young are a little lighter than the female. Except in its sojourn in the south in winter, where it may be seen in immense flocks, especially in Florida, it is generally in small flocks after the manner of the Buffle-head. When rising from the water, it runs on the surface for some distance, and generally against the wind. If it cannot command a fair open space for flight, it will dive, using its tail either as a rudder or as a paddle in a vertical motion, and will hide itself away among the grass and sedges. When on the wing it flies low along the surface of the water, with a rapid beat of its broad wings, making a short, plump figure quite uncommon for a Duck; and it generally flies quite a distance before alighting.

Though not averse to the molluscous and piscatorial diet of the sea Duck, and often found on bays and marshes of the sea shore, its principal range is in the interior; and it prefers, as a diet, the leaves and roots of certain aquatic vegetation, for which it dives after the manner of the *Fuligulina*.

Not a few of this species remain on St. Clair Flats throughout the breeding season. The nest, built some time in June, is placed in the sedges or marsh-grass over the water; and may contain as many as ten eggs, remarkably large for the size of the bird (2.50×1.75), oval or slightly ovate, the finely granulated shell being almost pure white, tinged with the slightest shade of grayish-blue. The nest may be quite

well built of fine colored grasses, circularly laid, or simply a mere matting together of the tops of the green marsh-grass, with a slight addition of some dry flexible material. I found one nest on a hollow side of a floating log. It consisted of a few dried grasses and rushes laid in a loose circle. Indeed, the bird inclines to build a very slight nest.

As well try to catch a weasel asleep as to see this bird leave the nest. Mr. W. H. Collins, however, a well-known taxidermist, of Detroit, Mich., to whom the credit is due of first discovering the nidification of this species in our neighborhood, after carefully identifying the absent bird by the feathers in a well incubated nest, afterwards saw her leave it. She scrambled off like a mud-turtle from a log, and diving from the edge of the nest, which, as usual was over the water, swam in clear sight under the bow of his boat. From personal investigation I have satisfied myself of the accuracy of his painstaking observation. The Ruddy Duck is nearly noiseless, occasionally uttering a weak squak. Its habitat is North America at large.

The Gadwall or Gray Duck (*Chaulelasmus streperus*), a species of almost world-wide distribution, is about the rarest river Duck on the Niagara. Indeed it is particularly a species of the western interior, being abundant in Missouri, and in the regions of the Mississippi generally. As with most others of our river or non-diving Ducks, Audubon satisfied himself as to its breeding in Texas, and there is pretty conclusive evidence that its summer habitat does not extend to the extreme north. Probably the regions of the upper Mississippi and Missouri are its principal breeding grounds. Its nest is made on the ground, in marshy places, and is composed of sticks, weeds and grasses; the 6-10 smooth, elliptical, cream-colored eggs measuring about 2.00×1.50 .

Some 20.00 long and 30.00 in extent, most of the plumage is finely barred with black and white, giving a general gray effect; middle wing coverts, chestnut; greater ones, black; speculum, white. The species may always be differentiated by the wing.

THE SHOVELLER.

A highly specialized form, in nature, is a Duck's bill; and so completely do form and function correspond therein, that it may be impossible to conceive of adaptation more perfect. The head, or the entire body, being immersed in the act of feeding, and that often to a great depth, or in turbid water, the food, which itself is often found in the mud, must be selected in great part, at least, without the aid of sight; the sensibilities of touch and taste, therefore, are particularly requisite. To render these faculties of perception as acute as possible, the soft, fleshy tongue, the carneous interior of the mouth in general, and the soft, sensitive exterior of the bill are well supplied with a complicated system of nerves, thus enabling the bird to detect its food by the sense of feeling, and probably even by the sense of taste. The broad bill, with its finely lamellate edges, serves as a sort of sieve or strainer, to retain the proper articles of diet, while the foreign or extraneous matter is allowed to escape; the Duck thus feeding somewhat after the manner of the Baleen or Right Whale. Though constructed on the same general plan, the bills of the various species of Ducks include a great variety of patterns. Some, as those of the Old Wives and the Pintails, are quite small, whereas, in many of the river Ducks, the bills are large and broad. The most exaggerated, both in size and form, is that of the rather small river Duck called the Shoveller (*Spatula clypeata*). Though but little larger than a Teal, its bill is quite a little

longer than that of the Mallard or the Eider, and nearly twice as broad at the tip as it is at the base, thus giving the species a very peculiar and almost awkward appearance. The tongue, and a prominent ridge along the deeply concave roof of the mouth, are well provided with large and rather peculiarly formed papillæ, in order to augment the sensitiveness of touch and taste. The large lamellæ along the edges of the immense bill give the bird a peculiar grinning aspect.

The comparatively long measurement for the weight, nearly or quite 20 inches, is due partly to the slender body, but more especially to the long bill and tail. The bill is dark; the head and upper part of the neck, blackish, with green and purplish reflections; the color by no means pure, however; the lower neck, upper breast, anterior scapulars, longitudinal stripes in the long posterior scapulars, patch on each side of the rump, and band towards the tail, white; stripe down the back of the neck, and the back, gray-brown, the feathers edged with lighter; rump and upper tail coverts, greenish-black; outer edge of the long tertials, and the smaller wing-coverts, ultra-marine-blue; speculum, violet-green; the rest of the wings, dusky; tail feathers, white, with brown line along the shaft; under parts, dark chestnut, lighter and somewhat spotted and barred on the sides; iris, yellow; feet, orange;—the mature male, thus described, is a conspicuous and pleasing object on the water. *Female*, brown above, each feather edged with lighter; the throat, sides of the head, and under parts generally, light-brown.

The nest of this species is on the ground near the water, and is built of the coarse materials commonly used by Ducks. The eggs, some 8 or 10 in number, and about 2.07×1.47 , are a dark-cream or light-brown, not infrequently tinged with ashy-gray.

This fresh water, or river Duck, occurring sparingly in the east, is abundant in the west, breeding from Texas to Alaska.

THE BONAPARTE GULL.

Here let me mention a very conspicuous and beautiful bird, which appears on the river along with the Ducks in spring and also in the fall—the Bonaparte Gull (*Chroicocephalus philadelphia*). Some 12-14 inches long, with a bill as slender as that of a Tern, the mantle is an elegant pearly or silvery-gray; head dusky-slate, appearing black in the distance; the eye-lids marked with white; bill, black; neck, under parts, tail and front of the wing, white; the wing having the outer web of the first primary, also the edge of the second or even the third, and the ends of the primaries generally, except the extreme white tips, black; feet, orange. In winter there is no hood, but a gray spot on the side of the head. The young are mottled with brownish or grayish above, having a dark bar on the wing, and a black band on the tail.

Appearing about the middle of April, this species sometimes becomes very abundant for a month or more, flying leisurely up and down the river in larger or smaller flocks, and subsisting on small fish which they take by dropping lightly on the surface. The flight is easy and graceful, each stroke of the long, pointed wings throwing the body up a little, while the bird peers this way and that way in quest of its small prey. If it fly towards one, the white front of its wings, added to its white breast and neck, gives it the appearance of a white bird with a black head. It often has a noticeable way of turning partly around or cutting backward, as it drops down in securing some object suddenly detected on or near the surface, thus making it appear decidedly lithe and agile on the wing. Occasionally it may alight

on objects along the shore, and often rides down the current on floating bits of board, sometimes ten or a dozen standing closely side by side in a row. Then they utter an occasional soft conversational note, as if quietly enjoying each other's company, and affording a most beautiful and instructive picture of happy contentedness. Not infrequently they swim, or rather float, literally *on* the water, their light forms scarcely pressing below the surface. The harmony and effect of their chaste colors, in such pleasing contrast, when compared with the bright green tints of our beautiful river, are strikingly elegant; and never is the Niagara so charming as when ornamented with clouds of these gentle, graceful, little creatures. The immature birds, some of which spend the summer on St. Clair Flats, linger here some time after those in mature plumage have gone northward. Some light has lately been thrown on the nidification of this species, a matter on which the books have heretofore been almost silent; notwithstanding the commonness of the bird on the sea-coast and in the interior during the migrations. The annual report of the Canadian government for the Department of the Interior, issued 1880, gives Gull Lake, north of Cypress Hill and Bullrush Lake, as localities where this Gull breeds commonly; and Mr. Fortescue reports it as breeding on Hudson's Bay.

It was the 18th of October last (1883), that the fall flight of Ducks fairly set in on the Niagara. The ripe brilliancy of our autumn scenery had just reached its climax. The groves on Grand Island were like bright bouquets of many colors. The top of the large soft maple, under which I had placed my tent on Buckhorn Island, seemed like a crimson flame; and it was surrounded by every shade of scarlet, orange, amber, and gold, and even the rich green of sum-

mer. The river was in its most placid mood, its waters of half a continent moving on with a quiet force, that did not stir the smallest ripple on its surface. The sky was veiled in a soft hazy curtain of gray, and the air was motionless. The river, like a great mirror, doubling the gorgeous landscape, reflected immense flocks of Ducks, flying high, now in long lines and varying angles, and now in graceful curves. Only occasionally did a flock drop down within shot-range; then, as they rushed by our boat in the sedges, their many wings sounding like a storm-sough in the trees, they almost invariably proved to be Red-heads.

THE SURF DUCK.

But the Ducks were not all in the air. Here and there on the glassy surface small flocks would appear as if by apparition. Among these were many of the Ruddy Ducks, whose passage would seem to be about as much by water as through the air. This coming up out of the depths at any point adds a great mystery to the coy life of certain species. Every sense is on the alert, for you do not know at what moment some strange thing may "turn up." So it was on this morning of the 18th. There appeared suddenly, almost under the bow of my boat, three dark-colored Ducks, of a form wholly new; the most striking feature being the large head, and long bill thick at the base. They were young birds, and so tame, that it seemed as if I might row my boat up to them and take them in my hand. They proved to be the Surf Duck (*Edemia perspicillata*), which are not uncommon on these waters in the autumn; occasionally, indeed, being found here even in spring. It also occurs quite commonly as a transient autumn migrant on the beautiful lakes of Central New York. It is, however, particularly an ocean Duck, feeding on small mollusks and

fishes, for which it "dives almost constantly, both in the sandy bays and amidst the tumbling surf," sometimes "fishing at the depth of several fathoms," and "floating buoyantly among the surf of the raging billows, where it seems as unconcerned as if it were on the most tranquil waters." In winter its dark figure is common along the whole Atlantic Coast, it being often abundant about Long Island and southward. Taking up its northern migration early in spring, it breeds from Labrador northward, and also on Hudson's Bay; in the latter locality, according to Mr. Jas. Fortiscue, "on islands out to sea, hatching on bare rocks close to water."

Some 20 inches long and over 30 in extent, the male black, brownish below; the upper part of the upper mandible, including the gnarl, bright orange; iris, brown; feet, brownish. The female, several inches shorter than the male, with scarcely anything of the gnarl at the base of the bill, which is all black, is light sooty-brown above, and brownish-gray, with dusky specks, below. The nest is placed in a tussock of grass, in some marsh a few miles from the sea, and is made of dried weeds and grasses, the eggs being some 2.30×1.60 , and creamy-white.

THE SCOTER.

On the same day other flocks of strange, dark-colored Ducks appeared. I saw them in the water more frequently than in the air, and they were very expert divers. Sometimes the smaller flocks seemed almost to alternate with the immense flocks of Red-heads, at other times they were mixed in with them, so that a shot into a flock would bring down both kinds. The strange kind proved to be the young of the American Scoter (*Edemia americana*); no mature birds at any time being detected among them, I think,

though they do occasionally occur here in the spring. Some 20 inches long, and about 32 in extent, thus only of a medium size, the male is black throughout; eyes, brown; feet, greenish; top of the bill, orange, the mark being broadest by the gnarl at the base of the bill. Female and young, brown, the sides of the head and the under parts lighter, obscurely spotted with dusky.

This is another of the winter Ducks, sometimes appearing in great numbers along the whole Atlantic, perfectly at home in the stormy surf of the winter winds, feeding mostly on small bivalves, for which it dives incessantly and with the greatest address. It flies low over the water, but moves with great momentum; and is so attached to the sea, that its appearance on fresh waters would seem to be but casual, during its transits of migration, or while the most tempestuous storms are raging along the coast. The note of the Scoter in spring is like *whe-oo-hoo*, long drawn out.

Nesting similarly to the Eider Duck, it breeds from Labrador northward; the eggs, 2.00×1.60 , being yellowish-white.

THE VELVET DUCK.

During all last fall's shooting of Ducks on the Niagara, a fine pair of mature Velvet Ducks (*Edemia fusca*) remained in perfect safety, though fired at more or less continuously. They never dived to escape the shot, but had the happy faculty of rising out of the water just before one came within ordinary range for a shot. They seemed so perfectly self-assured and at home, that up to that point of approach, one might study them with all impunity. How buoyantly they swam, and how large and lusty they looked as they flew low over the water. The male, nearly 2 feet long and nearly 3 in extent, of brownish velvety black with white secondaries, causing a clear white bar across the wing when closed, and a long

white spot under the eye, was indeed one of the larger and more robust Ducks on the river. In the mature male, the red or bright orange bill has the base and the sides black; the iris is yellow, and the feet are dark red. The female and the young of the year, are dark brown or dusky, with two spots of whitish on the cheek, white bar on the wing, grayish under parts mottled with dusky, and black bill. In the latter part of September, I have seen these Ducks in large flocks on Lake Ontario. Their large black form, with snow-white patch at the base of the wing, cannot be mistaken in flight. The Velvet Duck (*Edemia fusca*) breeds from Labrador northward.

The three species last described constitute a group of Black Sea-Ducks, known on the Atlantic Coast in winter as Coots. A curiously formed or fancy bill, swollen at the base, broad and variously modified at the tip, and bright parti-colored, is a marked characteristic; the plumage is soft and velvety; the legs are placed far back in accommodation to their expert diving habits; and though eminently Ducks of the ocean, diving for mollusks or fishes, and seeking bays and estuaries only in the severest storms; breeding from Labrador northward, they locate on fresh waters a short distance from the sea. Like that of most ocean Ducks, their flesh is not very palatable; and like our more northern birds in general, they are common to both the Old World and the New.

THE EIDER DUCK.

Our large rivers, bearing more or less north and south, are all great highways of migration. So inviting an avenue to the south is the great St. Lawrence, that in the autumn, even the Eiders may be tempted to take that route into the interior. The young of both the Common

and the King Eider are occasionally found here on the Niagara, and a mature male of the latter was once taken here in April.

Let no one think that the brilliant birds are confined to the south. On our northern oceans rides the King of Ducks, and also his still more stately cousin, the Common Eider. The lower parts, and the crown from the base of the bill, black; the upper parts, including a line into the crown, white; back of the head and neck, ice-green; the breast a most elegant rosy-cream,—the male of the Common Eider (*Somateria mollissima*) is a very ideal of chaste beauty. The darkness of the deep beneath him, the snow of the mountain above him, the ice beneath his crown, and the rosy tint of the aurora borealis on his breast, he is the symbol of our most intensely startling and beautiful ideas of the north.

Extending their winter habitat along our northwestern coast to New York, the Eiders reach Labrador, in their northward migrations, by the first days of May, two weeks or more before the ice is out of that region. For the next three or four weeks their low flight, in long drawn-out lines, is a feature of that rough and forbidding landscape. The sexes are already united in regularly chosen pairs, the dark colored females contrasting strongly, as they alternate with their snowy consorts in the lines of flight. To the residents of Labrador, shut in by the long, bleak winter, their appearance now is about as pleasant as is that of the Robins to us in the raw days of March. After disporting themselves for several weeks in the happy reminiscences of their former summer haunts, they begin nidification about the last of May or the first of June. Breeding in communities, sometimes in immense numbers, in this respect differing noticeably from most Ducks, they appropriate the rocky islands

and islets along the coast for several—sometimes five or six—miles out, and along the mainland and inward for a mile. Thus their nidification becomes a striking characteristic of this great ornithological breeding-ground. The nests are placed about clumps of grass, in fissures of the rocks, under the low spreading branches of the stunted firs, and along shelvings of the shore not far from the water's edge. Often they are so numerous as almost to crowd upon each other, six or eight being found under a single bush, or arranged in lines along the grassy clefts of rock. Well sunken into the ground, they are made of dried twigs, sea-weeds, and mosses, so well placed and interwoven as to give the cavity a neat and pretty appearance. As is the case with Ducks generally, there is no down in the nest when the eggs are first laid; but when they are deposited, 5-7, or perhaps as high as 10, oval, smooth-shelled and pale clouded or mottled olive-green, some 3.00×2.10 , the female, now abandoned by her mate, begins to pluck the celebrated down from her breast, and continues to do so as incubation proceeds, until the roots of the feathers of her under parts are about entirely bare of this commodity. The nest, now containing about a hat-full of loose down, which approximates an ounce in weight, is elegantly lined, and may afford an entire covering to the eggs in the absence of the bird; and thus their warmth may be preserved for some time, while the lone and forsaken female seeks recreation and food. Now the dark reddish-brown birds, elegantly marked with black and with two narrow white cross-bars on the wings, may be seen standing on the rocks leisurely preening their feathers, or floating on the waters in the vicinity. At the same time the bright colored males may be seen in large flocks, disporting themselves in entire freedom from care, among the outer islands and sand-bars. The immature

males, variously spotted and piebald—it taking four years for them to reach mature colors—are meanwhile finding seclusion with the sterile females. I recently found quite a number of these Ducks breeding about Mud and Seal Islands, Yarmouth County, Nova Scotia, and am told that a few still breed about Grand Menan.

Early in July the first young appear, and by the 20th they are about all hatched. Heavily clad in a dark mouse-colored down, they are the objects of the closest vigilance and care on the part of the mother. If the nest be far from water, they are at once conducted thither through every difficulty; if it be about rocks over the water, the mother will transfer them in her bill, after the manner of the Wood Duck. For the next three weeks or more, the Eider is the most faithful of mothers, leading her brood, in close flocks, about shallow waters, where they are taught to dive for their food. If they become fatigued, she swims deeply among them, and takes them all on her back till they are rested. If a Jaeger or the large Black-backed Gull appear in search of a tender meal, croaking fiercely and beating the water with her wings, she will raise a lively spray, the young meanwhile disappearing under water; or she springs out of the water, and attacks the enemy "tooth and nail" so fiercely, that he is glad to make good his retreat. Now see her mount that rock, and coax her scattered brood together around her, as they emerge from the water here and there along the shore!

The males, free from domestic cares, moult several weeks before the females, and also leave their summer habitat some two weeks in advance of the females and young, but are happy to mingle with them again after all have reached our coast to spend the winter. Here, toward spring, the males have a queer note, sounding like *moo-moo-o-o-o-o*; and

resembling the moaning of the seals in the harbors. The principal food of the Eider is shell-fish, small gasteropods and mussels, for which it will dive 8 or 10 fathoms, or even more, and the shells of which it can break easily. Though its flesh is not the most savory, it can sometimes be eaten with relish. Audubon cites a case of its successful domestication. Its colors, its great size—some 25 inches in length and 40.50 in extent, and its broad-based tapering bill, feathered well down along the ridge—fully differentiate it.

In Norway and Greenland, for the Eider is also a denizen of the Old World, this species is half domesticated. The natives, pursuing a humane and most commendable policy, do not allow it to be molested. Hence it breeds in great numbers, even about their premises, under up-turned boats, slabs, and about out-houses, the female allowing herself to be lifted from the nest while the eggs are handled. After the young have left the nest, the down is gathered as an article of commerce; and thus it is secured in the greatest quantity. Islands appropriated as breeding-places thus become good, sometimes notable, sources of income to the owners.

The King Duck (*Somateria spectabilis*), a near relative of the former, but of considerably smaller size, is more arctic in its habitat. Very common about the Magdalen Islands in winter, and so tame that it can be killed with a stick, it seldom migrates as far south as New England. Probably its tameness in winter is due to its breeding so far north as to be disturbed but little by man.

Some 22.50 long and 41.00 in extent, the male is brownish-black, having the chin, neck, upper part of the back, stripe lengthwise on the wing, and a spot on each side of the base of the tail, white; an elegant gray-drab hood over the crown; cheeks delicate ice-green; border around the bare

red patches on the sides of the swelling at the base of the bill, and fork-shaped spot on the throat, black; breast, dark-cream. The female is reddish-brown, marked with black, with a little white on the wings. The species can always be determined by the downward curve of the long scapulars.

The Labrador Duck (*Somateria labradoria*), an arctic species, formerly found from New Jersey northward in winter, is now so rare as to be regarded almost extinct. Some 20 inches long and 30 in extent, it has a long patch along the crown and down the back of the head, collar around the lower neck continuing and enlarging over the back; the primaries and the under parts, black; the other parts are white; thus making a very strongly marked species.

THE HARLEQUIN DUCK.

The most fantastic of all our Ducks is the Harlequin (*Histrionicus torquatus*), or Lord and Lady, as the two sexes are called on the coasts of New England. About 17 inches long and 27-28 in extent, bill short and small, tail rather long and pointed, the male has the head and neck of dusky-ash; upper breast and shoulders, bluish-ash; under parts, dusky-brown; triangular-crescent spot at the base of the bill, in front of the eye and extending up on the crown; a narrow line on the back of the crown, a spot back of the ear, a long one on the neck, a narrow ring around the lower neck, large epaulets; markings on the scapulars, tertiaries, wing-coverts and sides at the base of the tail, white; the white generally margined with black; a streak on each side of the crown, and the long feathers on the sides, chestnut-red or brown; rump, tail, and under-tail coverts, black. The female is dusky-brown, with whitish markings in front of the eye, and a clear white spot back of the ear. The young males are several years in coming to maturity.

In Audubon's time this species was common, in winter, from Boston northward, and bred as far south as Grand Menan; at present it is doubtful if it breeds farther south than Labrador and Newfoundland, and is not very plentiful there; while in respect to their winter habitat, Mr. E. Smith, of Portland, Maine, says they are "not very common, but of regular occurrence along the coast in winter, frequenting the outermost islands and ledges;" also that they are "very active, expert divers, and generally wary, and as their haunts are not easily accessible, but few of the birds are shot."

About Mud and Seal Islands, Yarmouth Co., Nova Scotia, this species is still found in considerable numbers throughout the winter, there being sometimes as many as a hundred in a flock. They keep about the rocks and ledges, feeding on the small crustaceans called sand fleas, and on small gastropods. Shooting the "Rock Ducks," as they call them here, is the rarest sport of the season. An attractive sight, indeed, is a flock of these strikingly marked birds, on a solitary outlying rock, on a bleak winter's day. The males are said to be particularly proud in their manner, stretching up their necks and bowing to each other when a number of them alight together, and emitting a peculiar soft whistling note, not unlike that of the Common Partridge or Ruffed Grouse. They generally arrive in November and leave in April. For these interesting facts, I am indebted to Mr. John Crowell, of Seal Island, who is not only a gentleman of great generosity, but one of the most accurate observers of nature that it has ever been my pleasure to meet.

It is now pretty evident, that this species breeds in holes in trees, like the Wood Thrush. It is so reported from the interior of Newfoundland.

CHAPTER XX.

BIRD-LIFE IN NOVA SCOTIA.

NOVA Scotia is especially favored with the Warblers. The beautiful and musical Yellow Warbler (*D. aestiva*) is as common here as in New England, and with its usual familiarity, may build its nest in the rose-bush by the front door. From almost every clump of evergreens comes the peculiar ditty of the Black-throated Green Warbler (*D. virens*). The sprightly whistle of the Black-and-Yellow Warbler (*D. maculosa*) is quite common to the evergreen and mixed forests; the musical twitter of the Yellow-rump (*D. coronata*) is often heard in the pine groves; the soft shrilling insect-tones of the Yellow-backed Blue Warbler (*Parula americana*) is nearly as common as in New England; the conspicuous little figure of the Black-and-white Creeping Warbler (*Mniotilta varia*) is frequent on the trunks of the lowland forest-trees; the Black-throated Blue Warbler (*D. caerulescens*) is not rare; the Maryland Yellow-throat (*Geothlypis trichas*) delights in the swamps and numerous wild meadows; the Redstart (*Setophaga ruticilla*) flashes among the foliage; the Chestnut-side is to be found occasionally; Audubon reports the nest of the Blackburnian from this locality; and Mr. Andrew Downes regards the Yellow Redpoll as a common resident. All of the above no doubt breed in the numbers there indicated, while the echoing chant of the Golden-crown (*Seiurus aurocapillus*) is frequently heard;

and its near relative, the Water Thrush (*S. noveboracensis*), is at home in the bogs and swamps.

THE BLACK-POLL WARBLER.

I do not remember hearing the Black-poll (*D. striata*) on the main-land of the peninsula, but on the Mud and Seal Islands, about fifteen miles out at sea, nearly in range with the county-line between Yarmouth and Shelburn counties, they are positively abundant throughout the breeding season—so abundant that, while wandering among the evergreens, one is at no time out of the reach of their song, and often several can be heard at once. That song, though one of the most slender and wiry in all our forests, is as distinguishable as the hum of the Cicada or the shrilling of the Katydid. *Tree-tree-tree-tree-tree-tree-tree-tree*, rapidly uttered, the monotonous notes of equal length, beginning very softly, gradually increasing to the middle of the strain, and then as gradually diminishing, thus forming a fine musical swell—may convey a fair idea of the song. There is a peculiar soft and tinkling sweetness in this melody, suggestive of the quiet mysteries of the forest, and sedative as an anodyne to the nerves. The chaste little figure striped in half mourning and capped in jet-black, every now and then reaches the tip-top of some evergreen, stretches himself up in song in full sight, and then darts into the thicket. As one nears the nest, the female may be seen beating her wings along the branches in the utmost distress, or one may still hear her sharp chipping note of alarm as she disappears in the almost impenetrable growth of small black spruce. The nest is very uniquely placed. Generally within reach from the ground, often quite low and on a limb against the trunk of a small tree, it is a bulky structure, about five inches in external and two in internal diameter,

about one inch in depth internally and three in depth externally, and is composed of the small spray of the evergreens, dried weeds, moss and wool, the lining being of fine dried grasses and a few feathers. The materials are all rather roughly laid; and the wool may be peculiar to the locality under consideration, as the hundreds of sheep kept here throughout the year leave tags of their fleece on almost every bush. The four eggs, about $.75 \times .53$, are grayish-white, slightly specked all over, and spotted in a wreath around the large end, with several shades of brown, and still more with subdued lilac or neutral tint; the whole being intensified with here and there a distinct blackish spot or scrawl in the wreath of spots or thickest part of the marking. The eggs of the various species of Warblers differing greatly in size for birds so similar in measurement, those of this species are among the larger specimens.

In color and in habit the Black-poll is strongly differentiated. Male, 5.50 long and 8.50 in extent, has first primary as long as the second, thus making the wing quite pointed, and the tail emarginate. The upper parts are light bluish-ash streaked with black; crown, jet-black; wings and tail; dusky, the former edged with greenish, the latter edged with white, and having patches of white on the inner web of the three outer feathers toward the end; tertiaries edged, and wing-coverts tipped, with white; cheeks and under parts, white, with spotted lines of black from the bill down the sides. Female similar, with colors and marking not so bright, generally more or less tinged with greenish-yellow.

The mature male, moving among the dark foliage, much after the manner of a Flycatcher, also capturing insects with a sharp snap of the bill, is as conspicuous in his strongly contrasted colors as the Black-and-White Creeper or the Black-capped Chickadee. Appearing in the very

tail of the migration of its family, it is scarcely to be looked for in Western New York till the middle or latter part of May, and Audubon found the eggs of the species in Labrador as late as the middle of July. But if the Black-poll seems to be a laggard, let it be remembered that it is a great traveler. Wintering in Central America and the West Indies, and traveling, perhaps, largely at sea, it does not slacken its migrations till it reaches the oceanic islands off northeastern Maine and Nova Scotia; and breeding commonly in Labrador, it extends even to Alaska and the Arctic Ocean. Nebraska seems to be about its western limit.

THE HERMIT THRUSH.

One of the most charming items to a naturalist, visiting Northern New England or the Maritime Provinces in spring, is the song of the Hermit Thrush (*Turdus pallasi*). I reached Paradise, in the Annapolis Valley, Nova Scotia, during the night, and, early the next morning climbed the South Mountain to listen to the birds. It was the beautiful morning of the second of June, 1883. As I passed through a swampy tract of alders, on nearing the foot of the mountain, I was greeted with the divine song of the Hermit. It had been familiar to me in the days of childhood, and I had often recalled the unutterably sacred feelings it used to awaken; but never during the many years of my ornithological studies had I heard it, though I was quite familiar with the bird in its migrations. Stimulated by anticipation, and with a vague conception formed from the descriptions of authors, and the analogous songs of other Thrushes, I was prepared for the happiest impression. It was a moment never to be forgotten. The song begins with a note not unlike the vowel *O*, passing through several intervals of the musical scale in a smooth, upward slide, and

in a tone of indescribable melodiousness, and continues in a shake which gradually softens into silence, thus giving a most pleasing diminuendo. Put into syllables, it is well represented by Mr. Burrough's phrase, "*O-o-o-o, holy-holy-holy-holy:*" and I sometimes thought I heard it say, *O-o-o-o, seraph-seraph-seraph-seraph*. Again I could discover no suggestion of articulate language, but only that soul-language of pure melody, which speaks directly to the heart without the ruder incumbrance of speech. With short pauses, this diminuendo is repeated any number of times, but always on a different key and with a different modulation. Now it is on the main chords, now on the intermediates, and now on the most delicately chosen and inspiring chromatics. When pitched high, the shake is through a shorter interval, and in a weaker tone. The lower-toned modulations are always the sweetest. Sometimes the tones are so soft as to sound far away, though the bird is quite near; and again the notes are very penetrating, and may be heard for quite a distance, especially when aided by the enchanting echoes of tall, dense forests. The tone of the melody is neither of flute, nor hautboy nor vox-humana, but something of inimitable sweetness, and never heard away from the fragrant arcades of the forest. "Spiritual serenity," or a refined, poetic, religious devotion, is indeed the sentiment of the song. He whose troubled spirit cannot be soothed or comforted, or whose religious feelings cannot be awakened by this song, in twilight, must lack the full sense of hearing, or that inner sense of the soul which catches nature's most significant voices. It is a voice which should always direct us heavenward.

Notwithstanding its retiring habits and its celestial song, this bird is decidedly lowly and humble in its nidification. The nest is not placed in a bush or small tree, as is the case

with the Wood Thrush and the Olive-back and its allies, nor on a pile of brush or dried leaves near the ground, after the manner of the Wilson; but it is sunken into the ground, among the forest plants or ferns, the rim being about level with the surface. It is somewhat bulky, and quite substantially built of dried weeds and grasses, slightly intermixed with moss. The lining is of similar but finer material, sometimes brightened with the glossy red or black capsule-stems of mosses. The eggs, of clear bluish-green, are about $.85-.90 \times .62-.65$.

The alarm-note, or breeding-call of this species, is a soft, *quec-e-e-c-eh*, somewhat resembling the call of the Vireos.

All in all, this is about the most boreal of the Thrushes. Wintering in the Southern—and occasionally, it would seem, even in the Middle—States, it breeds from Northern New England far to the north. The variety *nanus* seems peculiar to the southern Rocky Mountains, as is *auduboni* to the regions beyond. The Hermit breeds in the high altitudes of the above mountains, even as far south as Colorado.

Early in April, the russet form of this Thrush is seen, frequently, on the ground, among the faded leaves of our forests in Western New York, on its way to the north; and again in October, or perhaps as late as November, when the first snow falls, it appears again, quite commonly, on its way south. Like the rest of the Thrushes, it feeds on the ground, running briskly, and often dropping down from the branches, between the strains of its song, to pick up some favorite morsel, spied in the distance by those large, dark eyes, so common to the family.

THE CANADA JAY.

On the 9th of June (1883), in a wild meadow in Lunenburg County, N. S., I was much amused watching a female

Canada Jay (*Perisoreus canadensis*) feed her full-grown young. So great is the difference in color of the old and young of this bird, that Swainson, in the "Fauna Boreali-Americana," figured the young as another species. About 11 inches long and 15 in extent, the mature bird is dusky-ash, the feathers over the back and wing-coverts, tinged toward the tip with reddish; forehead, throat, ear-coverts, front and sides of the neck, and tips of the wing and tail feathers, white; under parts, light reddish, tinged with ash; bill and feet, black. Male and female are alike.

The young are deep dusky-ash, with the head blackish; streak from the base of the bill across the ear-coverts, tips of the greater wing-coverts and of the wing and tail feathers, and the vent, white; bill, bluish-white, tipped with black. Thus the young are so much darker than the parent as to appear like another species.

The brood referred to were full-grown, and yet were being fed as assiduously as if they had been callow nestlings. Their noisiness, when the mother-bird arrived with food, first attracted my attention, the noise being a sort of hissing squeal, loud enough to startle anything in the neighborhood. The parent also had a squealing note, and another sounding like *choo-choo-choo-choo*, the note, perhaps, which Audubon compared to light strokes on an anvil.

The Canada Jay, or Meat Hawk, or Whiskey Jack, or Carrion-bird, may be most readily allured by its stomach. Ordinarily shy and distant, like other Jays, it will come so near as to appear almost domesticated, wherever there is some suitable food to attract it. Butchering-day among the farmers is sure to bring him. Perching on the nearest available object, and closely eying the whole proceeding, he will frequently drop down almost within reach to pick up a fresh morsel. The fisherman on some inland lake or

stream, may discover him in the other end of his boat, pil-laging his bait; the camper-out will be most sure to receive a call from him as soon as his quarters are taken up, and every stray crumb or bit of offal will reveal the motive of his visit; he seeks out the lumberman in the deep forest, and, in the emergencies of winter, will even take food from his hand. Audubon describes a rather cruel amusement of the lumbermen with this bird. "This is done," he says, "by cutting a pole eight or ten feet in length, balancing it on the sill of their hut, the end outside the entrance being baited with a piece of flesh of any kind. Immediately on seeing the tempting morsel, the Jays alight on it, and while they are busily engaged in devouring it, a wood-cutter gives a smart blow to the end of the pole within the hut, which seldom fails to drive the birds high into the air, and not infrequently kills them."

Exceedingly plain in color, and repulsive, rather than pleasing, in its vocal performances, the Canada Jay is decidedly graceful, however, in its movements. How emphatic, and peculiar to itself, is that nod of the head as it alights, and there is a peculiar jerk of the wings and tail. When alighting in one of the lower branches of a tree, it will sometimes ascend, hopping jauntily from one limb to another, round and round the trunk, thus reaching the top as if by a winding stairs. Its flight, too, is showy, resembling that of its gay relative, the Blue Jay.

True to its membership in the Crow family, it is said to be a devourer of the eggs and young of other birds, not sparing even the eggs of the Crow itself. Some competent writers say that its sagacity extends even to hiding and hoarding food for the winter.

Like some other hardy birds, it begins the breeding process very early, even in February or March, thus bringing

out its young before most other birds begin to build. Indeed, these young Jays are already flying by the time most of our migratory birds arrive. The nest, placed in the thick part of a tree, is built of twigs, hay and moss, and is lined with fine fibrous roots, like that of the Blue Jay. The eggs, about $1.20 \times .70$, are gray or grayish-white, marked all over, but more especially at the butt, with several shades of a neutral tint, and with spots of dark olive-brown. This species breeds from northern New England to 39° , and down in the Rocky Mountains probably to Colorado. It sometimes strays to the Middle States in winter.

THE RAVEN.

A very common bird-voice, in Nova Scotia, is the hoarse croak of the Raven (*Corvus corax*). This bird is much oftener heard than seen, however, for it is too shy and wary to make its appearance except in the distance. Then it is readily distinguishable from the Crow by its much greater size. Occasionally, especially if you are riding in some conveyance, it will perch near by and in full sight, when its size, its loose flowing plumage, and its thick, gull-like bill, mark it unmistakably. In flight it may differ very materially from the Crow, soaring high and majestically, after the manner of the large Buzzards or the Eagle, though its ordinary beating flight is quite crow-like.

For the most part the Raven is a bird of the north, and is partly migratory. Retired woodland lakes and streams, solitary cataracts, rushing rapids in deep ravines, forest-clad cliffs of great rivers, wooded islands out in the ocean, and lonely beetling crags about the sea, are the haunts of this majestic and mysterious bird. Perhaps from a natural aversion to man, but more probably from being constantly persecuted by him, it disappears entirely from the more

cultivated parts of the country. For instance, about Niagara Falls, and along the south shores of Lakes Erie and Ontario, where Wilson reported it as abundant in his time, it seems now to have entirely disappeared.

Though its dignified proportions, its color of magnificent black, and its distant, wary and stately ways, as well as the inscrutable mystery with which superstition has always invested it, give it a very high, æsthetic regard, many of its habits are by no means pleasing. In respect to diet, it is to a great extent a carrion-eater, feeding especially on dead fish which float up on the shores. Not only does it destroy birds and their eggs and weakly young lambs, but also the tender young of animals generally.

This magnificent bird may have much said in his favor, however. One who was most familiar with the habits of birds says that "the Raven destroys numberless insects, grubs and worms; that he kills mice, moles and rats, whenever he can find them; that he will seize the weasel, the young opossum, and the skunk; that, with the perseverance of a cat, he will watch the burrows of foxes, and pounce on the cubs." Even his carrion-eating propensities have their utility; so that it is highly probable that the Raven, notwithstanding all that may be said against him, is much more useful than injurious. Indeed, he is possessed of so much character, and has filled so large a place in history, that the world would seem incomplete without him. He is the first bird mentioned in the Bible. When the flood began to decline, Noah "sent forth a Raven, which went forth to and fro until the waters were dried up from off the earth." "That is," says Tristram, the celebrated English writer on the natural history of the Bible, "the Raven kept going and returning to the ark, resting on it, but not entering into it again, and finding its food

was so well adapted to obtain its subsistence amidst the scene of desolation; and the fact that it did not return *into* the ark would afford Noah a sign that the first stage of the subsidence of the waters was accomplished."

The poets of all time have made the Raven, with its hoarse, guttural tones, and its supposed untimely flight, the sign and symbol of the darkest coming evils. Has the night given us a mysterious and awful idea of darkness? The Raven has furnished our most beautiful and poetic conception of blackness. The peculiar majesty of his form and color is a dark point in nature's picture, most essential to its completeness; the absence of his weird tones would greatly detract from the harmony and significance of bird-music; and what a noticeable break in our literature would come with his departure!

Audubon assigns the nest of the Raven to some inaccessible cliff, and such no doubt is its most natural location; but in the absence of suitable rocky cliffs, it is placed in a tree. On the Mud and Seal Islands it is built in the flat-topped, low spruces, so common to the locality. Generally placed under a canopy of thick, broad branches, it is made of large, crooked, weather-worn sticks, closely and artistically laid, being rimmed up with finer material and well lined with wool; the same nest being repaired from year to year. Thus, in course of time, it becomes quite bulky, like that of the large Buzzards or the Eagle. The eggs, 4-6, and some 1.75×1.40 , are bluish-green, spotted all over, but more at the butt, with brown and pale purple, the ground color being much lighter or darker in different specimens, and the extent of marking being subject to great variation. The nesting begins as early as March, in Nova Scotia, and the whole family are abroad in June.

The Raven is of almost world-wide distribution; and that

of America, though slightly larger, probably is not specifically different from that of Europe.

THE CANADA GROUSE.

Nova Scotia is fairly within the habitat of the Spruce Partridge or Canada Grouse (*Tetrao canadensis*); and it may be found there, commonly, in all suitable places—evergreen woods and swamps, and uncleared tracts of more or less barren land. As with the Grouse generally, this species is not migratory, its habitat being from the extreme north of New England to Labrador northward, and to the Rocky Mountains and Alaska westward. About 16.00 long, the general color of the male is black, the under parts being more or less barred and spotted with clear white, the upper parts waved with gray or reddish-brown, and the quills variegated with light brown; the black tail is terminally banded with bright reddish-brown; naked space over the eye, bright vermilion; legs feathered to between the toes. Female a little smaller, the black being less clear, and much variegated with brown and white, the tail band less bright.

This is a bird of gentle, retired ways. Never does it make itself common about fields and pastures, piping from fence-stakes, like the Quail; nor will it expose itself in the open and by the roadside, even as much as the Ruffed Grouse. It is the aristocrat of its family, stepping daintily on its moss-carpeted and deeply-shaded apartments, feeding in summer on such berries as may be found in the forest, and in winter being content with even the leaves of the evergreens. Its flesh, being dark and unsavory, is not much in favor.

Its simple nest is generally well concealed on the ground, and contains some dozen quite pointed eggs, 1.65–1.70×

1.15-1.25, brownish-cream, spotted and more or less blotched with dark-brown.

The note of this species is a soft chuck, and it has not the jaunty jerk of the tail when walking, so noticeable in the Ruffed Grouse. In every way its manner is less self-conscious and gay. It is equally attached to its young, however, and will seek their safety with similar arts of simulated distress. Ordinarily it is so tame and unwary, that it may be taken by a noose fastened on the end of a stick.

Mr. Everett Smith, of Portland, Me., says: "The Canada Grouse performs its 'drumming' upon the trunk of a standing tree of rather small size, preferably one that is inclined from the perpendicular, and in the following manner: Commencing near the base of the tree selected, the bird flutters upward with somewhat slow progress, but with rapidly beating wings, which produce the drumming sound. Having thus ascended fifteen or twenty feet, it glides quietly on the wing to the ground, and then repeats the maneuver. Favorite places are resorted to habitually, and these 'drumming trees' are well known to observant woodsmen. I have seen one that was so well worn upon the bark as to lead to the belief that it had been used for this purpose for many years. This tree was a spruce six inches in diameter, with an inclination of about fifteen degrees from the perpendicular, and was known to have been used as a 'drumming tree' for several seasons. The upper surface and sides of the trunk were so worn by the feet and wings of the bird, or birds, using it for drumming, that for a distance of a dozen or fifteen feet the bark had become quite smooth and red, as if rubbed."

THE GOLDEN-CROWNED KINGLET.

Having heard the song of the Golden-crowned Kinglet (*Regulus satrapa*) to the very last days of June, and having

seen the female at different periods of the month, and finally with food in her bill, in Nova Scotia, I infer that it breeds commonly in that province. This accords with the fact, now well authenticated, that it breeds from Northern New England northward. Its song, sounding like *te-cèt, te-cèt, te-cèt, te-cèt, te-cèt, te-cèt*, in a soft whistling tone, is somewhat monotonous, indeed, but a pleasing melody in the soft sough of the evergreens. Nor is this song of the breeding time to be confounded with its soft lisping conversational notes heard throughout the year. Smallest of all our birds except the Hummingbird, only 4-4.50 long, so hardy that it can spend the winter in our Middle States, and even in Southern New England this is one of our first and most abundant migrants. From early in March till the middle or last days of April, its spirited flitting motions—whether most like those of the Warbler, Flycatcher, or Titmouse, it would be difficult to say—may be observed in the woods, the thicket, or the orchard. A charming sylvan ornament is this tiny, elegant, and gracefully moving songster. Dark greenish-olive above, grayish-white below, outer webs of the dusky wing and tail feathers, light green, wings marked with white and black, crown, bright flame-color, margined with yellow and again with black, the male is truly a king in all but size, and therefore may fitly be called a *King-let*. The female is like the male, lacking the flame-colored center in the crown, her crown being simply yellow, margined with black.

The nest of this species was found by Mr. H. D. Minot, of Boston, July 16th, 1875, it having been tracked out by observing the female in the act of conveying food to her young, of which it contained six. It "hung four feet above the ground, from a spreading hemlock bough, to the twigs of which it was firmly fastened; it was globular, with an

entrance in the upper part, and was composed of hanging moss, ornamented with bits of dead leaves, and lined chiefly with feathers." An egg, found in Labrador, is said to be small and pretty, with clay-colored spots on a white ground. Notwithstanding the immense numbers of this little insectivorous species, the study of its nidification still invites the ornithologist.

THE RUBY-CROWNED KINGLET.

Who has not seen the Ruby-crowned Kinglet (*Regulus calendula*) in the thick migrations of spring and autumn? Who that visits the grove, the thicket or the orchard in April or October can fail to hear its soft whispering *tsè-tsè-tsè*, as if the wee sprites, almost invisible but for their nervous flitting motion, were confidentially lispng their secrets in the thick branches overhead? Occasionally in the very last days of its spring migration, one may hear its song. Such was my privilege the first day of May (1883)—a calm sunny day, when every inch of atmosphere was calling to swelling buds and springing grass, when every breath was rest and inspiration. The place was a beautiful park-like, open grove near Niagara River. The song came from out of a thick clump of wild thorns, and was so loud and spirited that I was led to expect a bird at least as large as a Thrush. *Chee-oo, chee-oo, chee-oo, chee-oo, choo, choo, choo, tseet, tseet, tseet, tseet, te-tseet, te-tseet, te-tseet*; again, *tseet, tseet, tseet, tseet, choo, choo, choo, choo, chee-oo, chee-oo, tsit, tsit, tsit, tsit*, may represent this wonderful melody, the first notes being strongly palatal and somewhat aspirated, the latter slender and sibilant, and more rapidly uttered; the first part being also so full and animated as to make one think of the Water Thrush, or the Winter Wren; while the last part sounded like a succeedant song from a slender-voiced Warbler. Could all this come from the throat of this tiny,

four-inch Sylvia? I was obliged to believe my own eyes, for I saw the bird many times in the act of singing. The melody was such as to mark the day on which I heard it.

In size and color the species is in every way like the former, except the clear ruby crown, often concealed by the surrounding loose feathers, and sometimes—probably in the case of birds less than two years old—not found at all.* In habit it is regarded as more southern than its near relative, for it winters even in Mexico and Central America, and is supposed to breed as far south as Northern New Jersey and Western New York. Indeed, it is claimed that the young have been found in the nest in the latter district; and there is good evidence that it breeds among the most elevated forests throughout the Rocky Mountains, as also northward through the Maritime Provinces and Labrador.

The nest and eggs of this species, however, are a great rarity. The only clear account of them is furnished by W. E. D. Scott, who found them at Twin Lakes, Col., June 21st, 1878, the nest being in a low branch of a pine tree. "On the 25th," he writes, "I took this nest, containing five fresh eggs. It was built at the very extremity of the limb, and was partially pensile, though the bottom rested on some of the leaves just below. Like most nests of this region, it was composed in part of sage brush, but as only the smallest twigs were used, the entire structure is exceedingly soft and delicate. It is very bulky in proportion to the bird, and very deep. Inside it is lined with fine grasses and a few feathers. The dimensions, as follows, will give an idea of the size external and internal: Outside—four inches deep, three inches in diameter at top, and but little smaller at bottom; inside—three inches deep, two inches in diameter

* It may be that the female will yet be proven to be without the ruby crown.

at top, and narrowing a very little. The eggs, which are large in proportion to the bird, are a delicate cream-color before being blown, and white after."

Cuvier's Kinglet, Audubon gave on the authority of one specimen from near the Schuylkill; and as it has never been duplicated, it is supposed to have been some peculiar specimen of the Golden-crown. A peculiar structural mark of the Kinglets is the *booted tarsus*.

THE PILEATED WOODPECKER.

In the dense evergreen forests of Nova Scotia, visited only by the lumberman or the hunter, may be found that giant of his race, the Pileated Woodpecker, or Logcock, or Black Woodcock (*Hylotomus pileatus*). Some 18 or 19 inches long, and 28 in extent, supporting himself against the tree with a tail 6 inches long, the huge form is brownish-black; chin, stripe under the eyes, down the sides of the neck, and expanding under the wings, also a large patch at the base of the primaries, white. In the male, the head and pointed crest, and moustaches from the lower mandible, bright scarlet; bill and feet, bluish-gray; iris, yellow. The female has simply the crest scarlet. In flight, the white in the primaries is especially conspicuous.

The loud hammering of this large and vigorous bird on the sonorous dried trees, compared with which the tapping of the smaller species is but a weak noise, very soon becomes familiar to the ear of the woodman; and may designate the bird at a long distance. The old adage, "A workman is known by his chips," certainly affirms much for the industry of this bird. In his search for insects, for which he attacks the dead and dying trees, he will denude great spaces of the trunk and larger branches in a short time, heaping up the chips and strips of bark on the ground in

an astonishing manner. Very useful, indeed, must this bird be in preserving our primeval forests from the ravages of insects. Whether one notes his strong, undulating flight, his elastic bounding and springing along the trunks of the trees, the effective chiseling of his powerful bill, or his sonorous cackling, one is particularly impressed with the spirit and immense energy of the bird.

The natural habitat of the Pileated Woodpecker is the wooded regions of all North America, but in the slightly wooded prairie regions, it is but rare or casual; and in the more cultivated parts, it disappears, like the North American Indian, before the onward move of civilization. In Western New York, where it was once abundant, it is now of but rare occurrence. Its eggs were taken, however, about a year ago (1882), in a wooded tract near the large park of the city of Buffalo. About 1.25×1.00 , they are small for the size of the bird. The species is very shy and wary, keeping for the most part to the tall tree-tops, and making off on the slightest disturbance or alarm.

Just here, association of ideas brings forward a species closely allied to the above, the Ivory-billed Woodpecker (*Campephilus principalis*). Inhabiting the South Atlantic and Gulf States, its huge form, bright colors, loud notes, and the immense piles of bark-chips that mark the sites of his work, in search of insects in dead and decaying trees, are the constant accompaniments of the great pine forests of that region. Some 21 inches long, it is even larger than the above species; and its white ivory-colored bill, white secondaries, scapulars, forehead, lines down the back, and spots in the primaries, as well as the deeper and more glossy black of the body generally—differentiate it clearly in color. Its clear white eggs are very large, "as large as a pullet's, and equally thick at both ends."

THE YELLOW-BELLIED WOODPECKER.

Very common in Nova Scotia, as also in Northern New England and Northern New York, is the Yellow-bellied Woodpecker (*Sphyrapicus varius*). Some 8.50 long and 15.25 in extent, the general color is black, with small white markings nearly throughout; the crown and throat are red, the latter white in the female; the white belly, with fine arrow heads of black along the sides, is tinged with lemon-yellow, and the white stripes on the sides of the head are often tinged with yellow. This species has some peculiarities, both in structure and habit. The tongue is shorter and less extensile than in the rest of its kind; it also lacks acuteness and hardness, and is bushy at the end. The species is, moreover, migratory, thus differing from most Woodpeckers. It has a noted habit of puncturing the bark of living trees, in patches, while the sap is flowing, thus tending to injure the tree. These wounds it continues to visit afterwards, perhaps to drink the sap, but more especially to capture the insects which gather about it. It passes through Western New York, from the middle of April into May. There is nothing peculiar in the nesting of this species, the eggs being about $.90 \times .75$.

Another species not altogether uncommon in Nova Scotia is the Banded Three-toed Woodpecker (*Picoides americanus*). Some 9.25 in length and 15.25 in extent, the upper parts of this species is deep, glossy black; maxillary line, line from base of bill down sides of neck, mark back of eye, spots in wings, interrupted band down the back, and outer tail feathers, white; under parts the same, with bars of black on sides; yellow patch on the top of the head; base of the lower mandible and the feet, bluish. Female similar, lacking the yellow spot on the head, which is slightly spotted with white. Exceptionally to the rest of the Woodpeckers,

this and the following species have but three toes; yet the one hind toe seems to be as good as two, for these birds move along the bark of the trees about as readily as the rest of the family. Dr. C. Hart Merriam records a nest with eggs, from the eastern border of Lewis Co., N. Y. It was in a spruce tree, about 8 feet from the ground, the cavity being some 10 inches deep. "The eggs are cream-white, and of a texture like those of other Woodpeckers. They are strongly ovate in outline (the largest diameter being near the large end), and measure respectively 23.8×17.2 m. m., 23.6×17.8 m. m., 23.8×17.9 m. m., and 23×17.8 m. m." This species resides from Northern New York and Northern New England to the arctics. It does not appear to be numerous, however, at any point.

Of about the same habitat, only inclined, perhaps, to wander further south in winter, is the Black-backed Woodpecker (*Picoides arcticus*). In size it is about the same, and also in color, except that it lacks the white band on the back. This species is rather more numerous than the former; and, like it, has a very rough rattling note. They keep strictly to the deep forests, but do not appear to be very shy.

THE GOSHAWK.

The Goshawk (*Astur atricapillus*), or Blue Hawk, as it is called there, breeds not uncommonly in Nova Scotia. Female, some 23.00 in length, and 45.00 in extent; male, some 21.00 in length, and 41.00 in extent. In color the sexes are quite similar; bluish-ash above, the feathers centrally lined and edged with sooty-brown; wings very dark, outer webs of secondaries, and somewhat in the primaries, bluish-ash; inner webs of the primaries, and in parts of the secondaries, broadly barred with whitish; tail barred with spots of dark-brown and edged with white; uniform bluish-

white beneath, every feather streaked in the center and barred irregularly with slaty; top of the head and line back of the eye, black; eye-brow, and concealed patch on the back of the head, white; iris, reddish orange.

In full plumage, with its fine uniform upper parts, and its delicately penciled under parts, this is about the most beautiful of all our Hawks. Swift in flight, arboreal in its habits, very expert in winding its rapid course among the trees, and able to turn about almost instantly, it captures squirrels, rabbits and grouse with the utmost ease. Indeed, the capture of the last is so characteristic, that in some parts of New England this species is known as the Partridge Hawk. It may skirt the fields in search of the smaller birds; may follow the water-courses in pursuit of the Ducks, making even the Mallard its prey; or it may come, rarely, even into the farm-yard, at the peril of the common poultry.

Audubon relates an interesting instance which he witnessed on one of our great rivers, of the chase of a flock of Crow Blackbirds, by this species: "The Hawk approached them with the swiftness of an arrow, when the Blackbirds rushed together so closely that the flock looked like a dusky ball passing through the air. On reaching the mass, he, with the greatest ease, seized first one, then another, and another, giving each a squeeze with his talons, and suffering it to drop upon the water. In this manner he had procured four or five before the poor birds reached the woods, into which they instantly plunged, when he gave up the chase, swept over the water in graceful curves, and picked up the fruits of his industry, carrying each bird singly to the shore. Reader, is this instinct or reason?"

Its nest, placed in tall trees, built of sticks and weeds and lined with grasses and bark-fibers, contains some 3-4

eggs, "rather spherical in shape, of a bluish-white color, either immaculate or finely mottled with pale reddish-brown; the size. 2.30×1.82 — 2.32×1.92 ." (Maynard.) An egg in my possession taken in Lunenburg County, Nova Scotia, is 2.25×1.75 , about the size and shape of a common hen's egg, bluish-white, slightly smirched all over with pale dirty-brown.

Audubon reports a nest from the gorge of Niagara River and the great pine forests of Pennsylvania; but at present its breeding habitat does not appear to extend far south of Northern New England. In winter it roams, more or less commonly, throughout the Middle States, and may stray even into the south.

Whether the Great Gray Owl (*Strix cinerea*), more boreal even than the Snowy Owl, breeds as far south as Nova Scotia, has not yet been determined; but as it is an occasional migrant into New England, having been taken once at least as far south as Connecticut, and is supposed to breed possibly in Northern Maine, its nidification in Nova Scotia may at least be conjectured. This gigantic bird seems to be a stranger to observers of every locality. Even my excellent Hudson's Bay correspondent simply records him as a resident, without note or comment. Without any further information, therefore, of vocal capacity and habits, or diet, or nidification, we may presume that in all respects he is exceedingly owlsh, and in every way worthy to be the giant of his race.

Having no specimens at hand, I copy a description from Mr. Maynard, who is always very accurate in such matters: "Form, robust; size, very large; sternum, stout; the marginal indentations are quite deep; tongue, thick and fleshy, horny at the tip, which is rounded and slightly bifid.

Color — *adult* — above, including rump and upper tail coverts, sooty-brown, mottled and transversely banded with ashy-white; wings and tail, dusky-brown, transversely banded with ashy-white; under parts, including under wing and tail coverts, ashy-white, longitudinally streaked with sooty-brown, the streakings being more numerous on the breast, with transverse bands of the same color on the abdomen and under tail coverts. The face is grayish, barred with dusky, and the eyes are nearly surrounded by a ring of the same dark color."

Similar to the above, in form and general appearance, is the Barred Owl (*Strix nebulosa*). About 18.00 long and 40.00 in extent, the upper parts are brown, barred with white and tinged with reddish; the lower parts, which are lighter, have the markings crosswise on the breast, and lengthwise or *barred* below. This hooting species, inclining to disappear with the breaking up of the large tracts of forest, seems rare in Western New York. It is quite common in New England, and to the eastward generally, from Newfoundland to Florida. The nests are in a hollow or crotch of a tree, the white egg being about 2.00 × 1.70.

It may be proper to mention Richardson's Owl (*Nyctale tengmalmi*) in this connection. As an occasional migrant into New England, like the former, having been taken once even in Connecticut, being reported by Mr. M. Chamberlain as taken in New Brunswick in August, and its nest having been found by Mr. Perham in the Magdalen Islands, we may fairly suppose that it breeds in Nova Scotia. Mr. J. Matthew Jones, of Halifax, some time since, reported it as found in the province. This is one of our smaller and most hyperborean Owls. "Above, olivaceous chocolate-brown, spotted with white; beneath, white, spotted and streaked, and streaked with a brown similar to the back, but

a little darker; disk, white; a white spot between bill and eye; wings and tail with white spots on both webs, the latter with from 8-10 pairs; bill, light yellow; iris, yellow; tarsus feathered; * * * length, 10.00; extent, 21.00-23.00; wing, 7.25; tail, 4.50." (Stearns.)

The nest, found in the Magdalen Islands June 13th, by Mr. Perham, "was placed in a hole of a dead birch tree not far from the ground, and contained four young and one addled egg." Eggs, four to five, rather spherical, pure white, very smooth; dimensions, $1.06 \times 1.28-1.10 \times 1.32$. In every way this species would seem to be quite similar to the Acadian Owl, except that it is notably larger.

BICKNELL'S THRUSH.

Off the southwest end of Nova Scotia, opposite Yarmouth and Shelburne counties, are a large number of islands—one for every day in the year, they say. On leaving the harbor of the city of Yarmouth, off to the westward and well out to sea, are Green Island and Gannet Rock. Then come the Tusket Islands, many in number, and of varied size, form and appearance, some being partly cultivated, some wholly wooded, and the outermost almost as smooth as a lawn; these last are called the Bold Tusquets. Farthest out at sea, and very nearly on an extended line between the two counties mentioned, are the Mud Islands and Seal Island. These are almost entirely covered with a low growth of evergreens—black spruce and balsam fir. Except the Robin, the Song Sparrow, the Snow-bird, and a few Redstarts and Winter Wrens, almost the only small land-birds breeding here are the Black-poll Warbler and Bicknell's Thrush—the last two being very abundant.

This Thrush (the Black-poll I have described) was wholly new to me. My attention was first arrested by its call, or

alarm note, which sounded like *cree-e-e-cep*, or *quec-a*, or *cree-e-e-ce*, on a rather high, fine key. It had some resemblance to the call of Wilson's Thrush, but was unmistakably different; and as Mr. Brewster has noted (in Vol. viii, p. 12, Nuttall Bulletin), is very particularly different from the sharp liquid "*pip*, or *peenk*" of the typical Olive-back. The song *tsiderea*, *tsiderea*, *tsiderea*, sometimes *tsiderea*, *rea*, *tsidrea*, or some other modulation of the same theme, is similar in tone to that of Wilson's Thrush, but more slender and wiry, and therefore not nearly so grand and musical. In the solitude of the evergreen islands, however, it is by no means an inferior song, the sibilant strokes of the voice being finely relieved by the more prolonged liquid vibrations. A careful examination satisfied me that the bird was Bicknell's Thrush (*Turdus aliciae bicknelli*), lately identified in the Catskills and in the White Mountains, and named in honor of its discoverer. It was so abundant, and not particularly shy, for a Thrush, that I had the most ample opportunity for the study of its habits; and several specimens were secured and retained. Next to its lesser size, in structural peculiarity, is its slender, depressed, and finely carved bill, compared with which that of the typical Olive-back seems thick and clumsy. While singing, which occurred throughout the day, but more especially in the evening twilight and early morning, the bird delighted to perch in the top of the evergreens, often on the very tip, where its bright brown figure with elevated head was quite conspicuous. On the ground, and in taking its food, its habits were precisely like those of other Thrushes.

To find the nest of this species was my great desideratum; and, though the birds were very numerous, it was by no means an easy task. Many an hour did I thread my way through almost impenetrable evergreen thickets, every step

muffled on a dense carpet of moss, before I could secure my object. At last my search was rewarded by nests in considerable numbers, and all as nearly alike in location, structure and materials as it is possible for nests to be. A few feet from the ground and against the trunk of an evergreen tree, it was composed, externally, of various kinds of mosses, including a few fine sticks, weed-stems, and rootlets, and was lined with fine grasses well bleached; so that, outside, the nest was as green as a bunch of fresh mosses, and the inside was light-brown. The eggs, some $.87 \times .63$, are light bluish-green, specked with brown. About the Mud and Seal Islands, dense fogs prevail almost continually throughout the summer. This excessive moisture, so productive of mosses, causes the moss in the walls of the Thrushes' nests to grow; hence, the nests of previous years, well protected from the weather by the dense evergreens, become elegant moss-baskets, finely ornamented within and without with the living cryptogams. I saw a number of such, which looked as if they had grown *in situ* on the trees.

Some 7.00 or a little less in length, Bicknell's Thrush, as above found, is uniform deep olive-brown above; the sides of the white under parts being ashy-gray, and the sides of the neck and the upper part of the breast but slightly tinged with buff; while the neck and breast-spots are not so large as in the typical *swainsoni*. To my eye the bird does not appear so large as the rest of the Thrushes.

THE BLACK GUILLEMOT.

My first delight on reaching Seal Island was to study out the breeding of the Black Guillemot (*Uria grylle*), or Sea Pigeon, or Sea Widgeon, as it is called on the Atlantic. Along the coast, where the rounded boulders are heaped up as if by giant hands in huge windrows above high water

mark, the eggs were hid away; and the sitting bird was, for the most part, entirely out of sight. Had it not been for my genial friend, John Crowell, and his fine Newfoundland dogs, I should have seen but little of the nesting of these elegant birds. As we scrambled along the immense ridge of water-worn rocks, now high above the sea, the dogs would every now and then halt and sniff eagerly among the boulders. This sign Mr. C. understood full well, and at once he would begin to roll away the rocks. Presently the trim, shy bird could be seen covering her two eggs on the sand or pebbles, and seemingly too much abashed to make much effort to get away. About the size of a small hen, 12-15 inches long, including the neck and bill, beautifully black, glossed with green and purple, with a large white spot in the wing-coverts, and webbed feet bright red—this is a most beautiful and gentle bird of the sea. Its form is something like that of the smaller Grebes or Divers. In winter it loses the bright red on the feet, and becomes nearly white, merely retaining gray and dusky shades about the upper parts. When perched on the rocks, it stands almost upon end like a bottle; in spring it has a soft plaintiff note, like *kee-a, kee-a*. The flight is low over the water, straightforward and rapid. Like the rest of its tribe, it feeds on small species of marine life. The eggs, oval in form, $2.00-2.38 \times 1.24-1.56$, are delicate light-green or greenish-white, specked, spotted, and blotched all over, but especially at the large end, where there is sometimes a wreath or continuous blotch, with dark-brown or black, and pale lilac. This species breeds from Grand Menan and Nova Scotia northward, and extends along the New England coast in winter.

The Common or Foolish Guillemot, or Merre (*Lomvia troile*), similar in form to the latter, except that the bill curves

more, is thicker, and has the nostrils more covered; is 16 to 19 inches long, brownish-black above, the head and throat being browner; under parts, from throat in summer, from bill in winter, and in case of young, white. This species breeds in myriads on the rocky islands of Labrador and northward, and used to breed as far south as Nova Scotia. It sits almost up on end like a bottle, on a single egg which is laid on the bare rock. The egg, $3.00-3.50 \times 1.96-2.12$, and quite pyriform in shape, varies from white to dark green, and though sometimes plain, is generally blotched and streaked in every way with dark colors. This species is not nearly so common as the next on the New England coast in winter, and is also on the Pacific Coast.

The Thick-billed or Brunnich's Guillemot (*L. arra*) is similar in form, color, habit and distribution to the former, but is always to be distinguished by its thick bill. It is very much more common than the former species on the New England coast in winter.

THE PUFFIN.

One of the oddest birds of the sea is the Puffin (*Fratercula arctica*), or Noddy; Sea Parrot, as it is called by the Nova Scotians. About 13.50 in length, short-legged, web-footed, and with a curiously formed bill, flatly compressed, it is blackish above and white underneath, the black above extending around the short neck like a collar, and the white on the cheeks continuing in a narrow line around the back of the head, and becoming dusky at the base of the lower mandible. The tip of the bill is red, streaked with yellow and dusky, and the base is blue, margined with red. The callous at the corner of the mouth is yellow; the eyelids are pink, with blue appendages; the feet red. It bred formerly in abundance on some of the Mud Islands, one of

which—Noddy Island—is named for it, and a few breed there still, as also on the Machias Ledge near Grand Menan; but mostly they have been driven northward, where they breed in great numbers. The nest is a hole in the bank, like that of the Kingfisher, only not so deep, and contains one egg, about 2.50×1.75 , somewhat pointed, white or whitish, obscurely spotted. In some places the bird lays in deep holes and crevices of steep, rocky ledges. It belongs to the same family with the Auks, and is found also in the Old World. Its food is small crustaceans principally.

The Tufted Puffin (*F. cirrata*), an extremely northern species, and belonging to the Pacific rather than to the Atlantic, and similar to the last in general form, is blackish, with a white face, and a long flowing bunch of loose yellow feathers on each side of the head. The bill and feet are red, and it is several inches longer than the former. The young do not have the yellow crest.

The Razor-billed Auk (*Utamania torda*) also breeds sparingly on the outlying rocky islands of Nova Scotia, as on the Devil's Limb and Gannet Rock. About 18 inches long, with pointed-tail and flatly-compressed bill, this bird is brownish-black above and white beneath, the black bill having a white curved line, and the back part of the wing being edged with white. The feet are black, and the inside of the mouth is bright yellow. The eggs, which are abundant in some parts of Labrador, and are deposited singly "on the bare rock of sea-girt cliffs," are some 3.00×2.00 , oval, white, or whitish, variously and heavily marked with dark-brown. This bird is common on the New England Coast in winter. Its food is small crustaceans and algæ.

The Great Auk (*Alca impennis*), once abundant on our northern coasts, and also on the northern coast of Europe, is now supposed to be extinct. Its presence was attested

by the earlier observers, and its bones are abundant in the shell mounds on the New England coast.

The Sea Dove, or Dovekie (*Alle nigricans*), a very northern species, is common to the coasts of Nova Scotia in winter, as it is also to those of New England. This little Ice-bird, as it is called by the fishermen, but 8.50 long, with head and bill formed almost precisely like that of a Quail, and with a short pointed tail, is blue-black above, white beneath, the mature bird having the throat and neck black in summer, with stripes in the scapular, tips to the secondaries, and spot over the eye, white. Several closely allied species on the Pacific Coast are variously ornamented about the head in maturity, as the Crested, the Whiskered, and the Knob-billed Auks.

THE COMMON CORMORANT.

On the west side of Seal Island, and about a mile out, is a high ledge of rocks called the Devil's Limb. Here a few of the Common Cormorants, or Shags, as the fishermen call them (*Phalacrocorax carbo*), still attempt to breed. The rocks are thoroughly white-washed with their excrements, and the nests, placed in depressions and on shelvings of the highest peaks of rocks, are quite bulky, and constructed entirely of rock-weed, with which the ledge is heavily draped up to high-water mark. In a pretty deep depression in the center of the pile of rock-weeds are some 4 eggs, about 2.62×1.75 , oblong-elliptical, light bluish-green, more or less besmeared over with a white, limy deposit. No matter how long they are cooked, the white of these eggs will not become opaque. The rocky islands off the coast of Labrador and Newfoundland, are a favorite breeding resort of this species, as also of the Double-crested. Here in the solitudes of tempestuous waters, this Raven of the Sea* fishes

* Cormorant, or the French Cormoran, is supposed to be derived from the Latin *Corvus marinus*, or Sea Raven.

and flourishes in immense numbers, with less molestation by man, than do those numerous kinds of water-fowl whose flesh or eggs are a desideratum. The huge rocks, white-washed and plastered with excrements; the dark piles of sea-weed, with their complements of eggs; the noisy growing broods of young of various sizes (these young always to be associated with decaying food and other filth); the immense dark figures of their parents, swarming in



THE COMMON CORMORANT.

clouds and filling the air with their hoarse caws and croaks—these all constitute a scene which must be witnessed in order to be appreciated.

Strongly characterized is this bird both in form and color. The long, narrow body is greatly extended by the long duck-like bill and neck, and by the long, broad, fan-shaped tail, the entire length being about 3 feet. The rather slender and terete bill much hooked at the point, the naked space about the green eye, the white-bordered yellow gula pouch, the crest, the pointed feathers along the wings and back, the totipalmated feet, the backward position of the legs making it stand upright like the Grebes, and the use it makes of its tail in bracing itself like a tripod, or in supporting itself in woodpecker-style as it climbs over rocks and bushes—all these give it an individuality in form which appeals strikingly to the eye. No less striking is the peculiar and rich attire of this species. Such lustrous black, such iridescence of violet-purple and green, with dark borders to the pointed feathers of copper and bronze-gray of the wings and back, would seem to indicate the tropics rather than the cold fogs of the north. This magnificent dark array is still further set off in summer by a white patch on the flank, and numerous long, filamentous white plumes on the head and neck. There are some peculiarities in the skeleton of this bird, as "the long, bony style in the nape," and the palate bones being not only united, "but sending down a keel along their line of union;" also "the interorbital septum is very defective." Though awkward on land, the Cormorant is perfectly at home in the air and on the water. Its flight is firm and grand; and diving from the surface of the water for its prey, it uses its wings as well as its feet in the submerged pursuit, being capable of remaining under the water for some time. It is a most voracious eater, its diet consisting of fish

of all kinds. In winter this species strays southward along the coast as far as Maryland. The Double-crested Cormorant (*Phalacrocorax dilophus*) has about the same range as the former, and is even more numerous. About 30-33 inches in length, it is a little shorter and smaller every way than the former. In color it is very similar, except that it has noticeably black shafts in the dark-edged feathers of the wings and back, and it generally lacks the white flank-patch common to the former species in summer. In form it is well differentiated, not only by the double crest of curly black feathers, and of stray filamentous white ones over the eyes and along the sides of the neck, in the mature dress of summer, but by its gular patch, straight edged behind, while in the former it is heart-shaped, and by its 12 tail-feathers instead of the 14 of the former. The young of both species is plain dark brown, paler or grayish below.

The Florida Cormorant (var. *floridans*) is simply a smaller and more southern variety of the Double-crested species. The bill, however, is as large if not larger, and it would seem that the white plumes are not developed. "Resident on the Floridan and Gulf Coast, breeding by thousands on the mangrove bushes; in summer ranging up the Mississippi Valley to Ohio, and along the coast to North Carolina." (Coues.)

The Cormorants sometimes stray quite a distance from the sea on the fresh-water courses during the migrations. They have been taken on Niagara River.*

*The manner in which a certain species of the Cormorant (*P. Sinensis*) fishes for his master is well known. Buffon says: "They are regularly educated to fishing, as men rear Spaniels or Hawks, and one man can easily manage a hundred. The fisherman carries them out into a lake, perched on the gunnel of his boat; where they continue tranquil, and wait for his orders with patience. When arrived at the proper place, on the first signal, each flies a different way to fulfill the task assigned to it. It is pleasant on this occasion to behold with what sagacity they portion out the lake or canal where they are upon duty. They hunt about, they plunge, they rise a hundred times to the surface, until they have at last found their prey. They then seize it by the middle, and carry it to their master. When the fish is too large, they assist each other; one seizes it by the head, and another by the tail, and in this manner they carry it to the boat together. There the boatman stretches out one of his long oars, on which they perch, and, after being delivered of their burden, again fly off to pursue their sport. When they are wearied, he suffers them to rest awhile; but they are never fed until their work is over."

THE GANNET.

About seven miles out at sea from Yarmouth, Nova Scotia; on Gannet Rock, surrounded by the surging sea and accessible only after a long calm, the Common Gannet or Solan* Goose (*Sula bassana*) still breeds in considerable numbers. About 31 inches long, the long bill is stout at the base, tapering to a point, and slightly decurved at the tip, being cleft to beyond the eyes, and having the edges serrate or lacerate; the wings are long and pointed; the long, stiff tail is wedge-shaped and 12-14 feathered; and the feet are nearer to the center of the body than is common to the order. The general form resembles that of a Goose. The color of the adult is white with black primaries, and an amber-yellow wash over the head; lores and bill bluish or dusky, small, naked gular sack, and feet, blackish, the latter having the front of the tarsus and the toes greenish. The young, which are white in the down, become gray, with a triangular white spot in the tip of each feather, and in England and Scotland are taken in great numbers as food.

Spread out in flight, the snowy Gannet is a grand figure. Its movement is firm and steady, alternately flapping and sailing.

Scarcely can the Gull, the Buzzard, or the Eagle cut finer circles in the air, and nothing is more characteristic of this bird than its manner of diving for food. It does not drop down upon the surface of the water, after the manner of the Gulls and Terns, nor does it dive from the surface like the Cormorants and so many other birds, but pitches straight down, headforemost, with almost closed wings, from a considerable or even a great height in the air, shooting out of sight with great force amidst the spray. Taking advantage of this direct and swift movement, the old countrymen

* *Solan* is a corruption of *Solent*, the name of the narrow sea between the Isle of Wight and the main land of England, where this species is common.

place a platform under the surface of the water, fastening herrings or other fishes over it, so that the Gannets break their necks in striking it, or fasten themselves by their bills in the wood. They are ready detectives and close attendants upon shoals of fish, and so are of great service in directing the fishermen. No matter how high a point in the air the Gannet descends from, so complete is the adjustment of his eye, in the rapid passage of the distance to the water, that it seldom if ever fails to rise with its prey. It is also a bird of select diet, disdaining, unless sorely pressed by hunger, anything beneath a herring or mackerel.

Though this short-legged species shuffles along awkwardly on the ground, it swims buoyantly, aided by its highly aerated body even to the air-cells between the body and the skin, and by its totipalmate feet, the four long toes being completely webbed.

Every careful observer must have noted a certain peculiar evolution of the Gannet in flight. When large numbers are pursuing a shoal of fish, circling like kites over the spot, they will keep forming into a broad perpendicular procession downward into the waves, and shooting out of the water some distance off, will sweep up again into the moving mass, to take their places in due time in the continuously moving column. The intersecting circles, against the sky, of the immense moving multitudes overhead, might suggest a monstrous snow-storm; and no whirl of wind or water could be grander or more precise than this circulating mass of spirited living beings. The same grand evolution may be seen about the bastion-like rocks in the wild ocean, where they breed in almost countless numbers. Filling the air by thousands and tens of thousands, and moving out, up, and back, they will pour down over the huge cliffs to the surging, roaring sea,

like an immense living torrent, the stentorious volume of their hoarse croaks and screams becoming almost terrific, mingling weirdly with the sound of the waters. No bird is more gregarious than the Gannet, hence this immense concentration of numbers at their principal breeding grounds. The bulky nests, of sea-weeds and rubbish gathered from the sea, are placed along the shelvings and tops of the rocks at regular distances and sometimes in peculiar order. Audubon likened them to rows of corn, and the fishermen say they are built like a town. Mr. Maynard thinks these regular distances are determined by the quarrelsome disposition of the Gannets, keeping the immense numbers simply beyond fighting distance. In this degree of proximity, they sometimes cover large spaces of ground, so that one writer speaks of seeing a quarter of an acre of Gannets on their nests.

The ordinarily single egg, about 3.15×2.00 , oval, plain greenish-blue, and encrusted with a lime deposit, appears to be incubated by both sexes, they being, however, indistinguishable in color. They are not easily driven from the nest, and on being disturbed will disgorge their undigested food. The young are said to take with their pointed-like bills the partially digested food from the open throats of the parents.

Diving fiercely at other birds which may come in their way, the Gannets, also, fight furiously among themselves, will clasp each other by the bill, and roll down the heights into the sea, all unconscious of everything around them.

Gannet Rock, near Yarmouth, and another Gannet Rock, near Grand Menan, are the most southern breeding resorts known; while Bird Rock, near the Magdalen Islands, and the Island of Bonaventure, near Gaspé, are the principal breeding grounds in the north. In winter the birds are

common along the coasts of New England, and may stray even to the Gulf. The species is common also to Europe, breeding in great numbers about the Hebrides.

THE PIPING PLOVER.

In suitable places on Mud and Seal Islands, as also at some other points along the shores of the province, the Piping Plover (*Aegialites melodus*) is a summer resident in small numbers. It seems entirely to avoid rocks and mud, and never leaves the sea for even the most inviting shores of our great rivers. Clean sand-beaches of the ocean are its chosen resort. Here it attracts attention both by its appearance and by its voice. Of all our little shore birds, this is, perhaps, the most graceful and rapid runner; its tiny feet spinning along the sand, and its light-colored body shooting on in a straight line, so that its form becomes lost to the eye, and only a gliding white spot is visible—as the observers along the shore say—“like a snow-ball rolling on the sand.” The Waders, as a class, are distinguished by their whistling notes; hence the hunter, imitating the voice peculiar to each, “whistles them down,” as it is said. The Piping Plover, however, cannot be called a “whistler,” nor even a “piper,” in an ordinary sense. Its tone has a particularly striking and musical quality. *Queep, queep, queep-o,* or *peep, peep, peep-lo*, each syllable being uttered with a separate, distinct, and somewhat long-drawn enunciation, may imitate its peculiar melody—the tone of which is round, full, and sweet, reminding one of a high key on an Italian hand-organ, or the *hautboy* in a church organ. It is always pleasing to the lover of nature’s melodies, and in the still air of the evening, it is very impressive. As the Piping Plover is abundant about the dunes along our more southern Atlantic Coast, and may be found even to the Gulf of

the St. Lawrence, its melody may be regarded as characteristic of those shores; and strangely in contrast with the harsh, guttural, rattling voices of the sea fowl in general, it is the most melodious of all bird-notes along our ocean.

About 7.50 long and 15.50 in extent, this species ranks among our smaller Waders. In form, it is distinctly a Plover. Bill, orange at base and black at tip; upper parts pale brownish-ash, often almost ashy-white; under parts neck and forehead, white; streak across the forehead above the white, and ring around the neck—broader on the sides, and almost obliterated above and below—black; wings light-brown, inner edges of the secondaries and outer edges of the primaries, white, tipped with brown; coverts tipped with white; the nearly even tail is white at base, outside feather white, the next white with a spot of blackish, the rest brown; ring around the full, black eye, yellow; legs, orange; claws, black; under side of wings, pure white. The general appearance of the bird when in motion is almost white, and so lighter than the sand-beaches on which it runs; but it is scarcely discernible thereon when it is standing still. Its flight is rapid and often prolonged, being performed both by continual flapping and by gliding.

The nest of this bird is a mere hollow in the sand on the open beach. Sometimes it may be sheltered by the scanty vegetation found on the sand. The 4 eggs, about $1.15 \times .97$, are pointed, light-brown or dark cream, distinctly but finely specked and spotted with dark-brown or black, there being an under marking of pale-ash. On ordinary summer days, the eggs do not need anything more than the warmth of the sun on the sand to secure incubation; but in chilly or wet weather, and at night, the female adheres closely to the nest. The male is never far from the nest, and should you approach it, night or day, he will at once report himself as its

brave defender. Like the young of other Waders, the little Pipers are precocious, running as soon as they are free from the shell. They are covered with a gray down, mottled with brown, and their soft notes at once resemble those of the parents. As is the case with all the little *precoces*, they are ever on the alert for any alarm note given by the wary parent, and will squat so closely on the sand, which they resemble in color, that it is almost impossible to detect them.

The food of the Piping Plover consists of small crustaceans, and marine insects in general; and being commonly in good condition, its flesh is very savory. It is found in winter from South Carolina to Florida Keys, and is abundant at this time in the West India Islands, where a few probably remain to breed.

THE WILLET.

That large and elegant wader, the Willet, Humility or White-wing (*Totanus semipalmatus*), breeds in the marshes of the Chebogue and Tusket Rivers, in Yarmouth County, Nova Scotia. Mr. Benjamin Doan, of the City of Yarmouth, had the young in the down from the former locality; and I was credibly informed that they are quite common in the latter.

This bird, which I find occasionally on Niagara River in the migrations, is some 14.50 in length, wing 7.50, tail 2.75, bill 2.25. The bill and feet are light blue, the former dusky at the tip. In its summer plumage, the head and neck are brownish-gray streaked with dusky; the upper part of the back, and the scapulars, also brownish-gray, the feathers being centered or barred with dark-brown; the lower part of the back, olivaceous-gray; wing-coverts gray, the centers lined with dusky; the basal half of the dusky primaries is clear white, the white secondaries adjoining making a large

white patch in the extended wing; the throat, a band over the eye, the breast and sides and tail-coverts, are white, the sides and tail-coverts having bars or undulating lines of dusky; the tail, having the central feathers a little longer, is gray, becoming white on the sides, and spotted with brown or dusky. In the winter the upper parts are more or less marked with yellowish-white, and the under parts are finely barred with brown; the axillaries also are brown. A characteristic feature of this species is its semipalmated toes, enabling it to swim quite well when it has occasion to take to the water. Indeed, it seems much more fond of the water than most shore-birds, frequently wading up to its belly, or taking a plunge-bath as it stands in the water. Writers of the best authority attest to its alighting on the branches of trees. Large and robust, it appears to the very best advantage in its flight, which is firm and rapid. Ordinarily it is a very noisy bird, its *pill-will-willit*, *will-willit*, *pill-will-willit*, being frequent and loud, both on the ground and on the wing. In the breeding time, however, it becomes rather silent, unless disturbed; then the neighbors join in angry vociferations, as they circle over the head of the intruder. The bird has also a soft and rather mournful note while standing on the ground.

The Willet does not belong to those birds which make their nests on the open beach by simply scooping out a little hollow in the sand. It seeks the shelter of the marshes, building quite a bulky nest in some tussock of grass; the nest being raised, sometimes, as much as five or six inches, and composed of dried rushes and grasses. As it is pretty well rimmed up, the four pyriform eggs, lying with their points together, seem almost to stand on the points, presenting their larger ends to the body of the bird. The eggs, about 2.00×1.50 , are brownish or greenish drab, gen-

erally pretty dark, but sometimes lighter, pretty largely and distinctly spotted with dark brown and neutral, the markings sometimes forming a blotched and scrolled wreath around the large end. The young are gray, with dark markings.

The Willet is a rather southerly species, breeding, indeed, from the West Indies to Labrador, but being much more abundant to the south. Nor is it confined to the sea-shore, as was formerly supposed. Dr. Coues says: "I have found it wherever I have been in the United States. There were a few on the Upper Rio Grande when I crossed that river in June, 1864, and during the same month I saw many more westward, in New Mexico, especially along the Zuni River, where I am sure they were breeding. Some resided in a marshy tract near Fort Whipple, in Arizona. Others occurred to me in June and July in Eastern Dakota." They are also officially reported from the Northwest Territory, as "frequent on the borders of salt lakes and ponds." The Willet has never been found, however, in very high latitudes.

In respect to the food of the Willet, it may be said, once for all, that all the Waders feed on small mollusks and crustaceans, aquatic insects, and sand-worms.

THE PURPLE SANDPIPER.

A common winter resident about the rocky shores of Nova Scotia, and particularly those of outlying islands, is the Purple Sandpiper (*Tringa maritima*). It is especially common, in flocks of considerable size, sometimes as many as a hundred, on Mud and Seal Islands, where they arrive in December, and remain till May. These Rock Snipe, as they are sometimes called, will crowd together, a whole flock on a single rock, thus affording an excellent mark for

the sportsman. When flying, and also when gleaning their food, they have a fine whistling twitter, which appeals readily to the ear of the trained hunter.

About 9.50 long and nearly 15.00 in extent, this species has the head, neck and breast dusky-gray, the feathers of the latter tipped with white; wings and tail, dusky; the secondaries, tertiaries, and coverts of the former, edged with white; belly, vent, and wing-linings, white; back, dark, glossy-purple, edged with gray; eyes, dark. In this complete plumage, the bird is simply elegant. In winter, "the lower parts are pale gray, while the upper have the purple tints much fainter, the white edging substituted by dull gray." (Audubon.)

The Purple Sandpiper, chiefly a bird of the coast, but sometimes touching the Great Lakes in its winter tours, and reaching the coast of the Middle States, breeds to the far north. The egg "is of the usual pyriform shape, and measures about 1.40 by 1.00. The ground is clay-color, shaded with olivaceous; the markings are large, numerous and distinct, of rich umber-brown of different depths and intensity, occurring all over the shell, but being most numerous as well as largest on the major half. With these spots are associated shell-markings of pale purplish-gray and light neutral tint." (Coues.)

THE TERNS.

Outside of Mahone Bay, on the south shore of Nova Scotia, are several islands of interest in respect to ornithology. Flat Island, near Tancook, is a grand resort for several species of Terns. It comprises about a hundred acres, is clear of trees, and, as its name implies, is comparatively level. Ledges of slate crop out here and there, however, forming low ridges, with marshy patches intervening.

As one approaches the rocky shores, large numbers of Terns are seen scouring the surface of the water for food. Of all the birds of our northern seas, these are the most elegant and graceful. Mackerel Gulls, the fishermen call them, but, though nearly related to them, they are no Gulls at all. Bearing a resemblance in almost every point to these larger and more bulky birds, they are of a much more slender and delicate mould. Small and light-bodied, fork-tailed, with slender pointed bill, long pointed wings, and small webbed feet, they are the very ideal of a swimming bird of flight. In no respect are they divers, but birds of the air, which delight to sport on the surface of the waters. Their color, too, is at once the most chaste and elegant. The soft silvery-gray of the upper parts harmonizes finely with the sea and sky. The lighter tints, or white of the under parts, is pure as the snowy crests of foam; while the crowns of glossy-black, and the bills and feet of coral-red, are points of bright and pleasing contrast. What a powerful leverage in the air have those long pointed wings, raising the light body several inches at every stroke, and serving it as a well-trimmed sail before the wind. How lightly this bird drops upon the water for its food of tiny fishes, being too light and airy to dive out of sight, and often carrying its prey like a toy for some time, as if it fished for sport rather than from hunger. Occasionally a group of Terns will play together with a little fish, one seizing it in the air as another drops it, and so passing it from bill to bill, apparently for the sheer sport of catching it. As the Tern flies low over the water, its downward-pointing bill moving this way and that, it seems to be fishing in earnest; and again it gyrates high in air, light, agile and airy as a Swallow, and so suggests the propriety of one of its names—the Sea Swallow.

It is on their breeding grounds, however, that the Terns may be studied to the best advantage. As one lands on Flat Island, the air in every direction seems alive with them. They rise beyond gun-shot, the great mass intersecting their snowy circles against the sky, and the aggregate of their hoarse *ter-r-r-r-r-r*, *ter-r-r-r-r-r*, becoming almost deafening. As one approaches the nesting places, which are here and there all over the island, some will drop down and hover noisily only a few yards above one's head. Then it is that the pure under parts, the gracefully spread tail, the bright eyes, and the bills and feet of bright carmine, appear to the best advantage. In all their varying attitudes, this moving cloud of lithe and elegant creatures is a most pleasing and animating study.

In this dense moving mass, the species far the most numerous is the Arctic Tern (*Sterna macrura*). Length, 14.00–17.00; extent, 28.00–30.00; tail, 5.00–8.00; bill, 1.20–1.40; *tarsus*, .50–.67. This kind is a little more bulky than the Wilson. It is also generally distinguishable by its darker under parts and its bill of clear carmine, but is invariably so by its short *tarsus*—only a half inch or a little more. In winter, and during the second summer, the fore part of the crown is white, as it is also in the young of the year in its mottled plumage of gray and brown, which was once called the Portland Tern. The young have the bill and feet black and the under parts white, even into the second summer. Habitat: Europe, Asia, Africa, North America, generally, south to the Middle States, and on the Pacific Coast to California. Breeds from Massachusetts northward.

Next in number, but few in comparison with the former, as is also the case in all the breeding places of the Terns visited on the coasts of the Province, is Wilson's, or the Common Tern (*Sterna hirundo*). Length, some 14.00; extent,

about 30.00; *tarsus* .66-.87, and so, noticeably larger than that of the Arctic, except in the points noted, the two species are very similar, even to the voice. In habitat, however, the Wilson belongs to the whole Atlantic Coast, breeding more or less throughout its range. In New England it breeds the most commonly of all its family. The black cap is retained during the winter, but is more or less imperfect in the young, which are also beautifully mottled with gray and light-brown, with more or less dusky on the wing coverts and tail. As in the young of the former, the under parts are white, but the base of the bill and the feet are yellowish. I found this species breeding in large numbers on one of the Western Islands in Georgian Bay, and a few laying their eggs on the muskrat houses on St. Clair Flats. I think they breed in the higher regions of the Great Lakes, generally.

Among the flocks of Terns on Flat Island, I was not a little surprised to find a few of the Roseate Terns (*Sterna paradisea*). From what I had learned in the books, I should have scarcely expected to find this species as far north as Portland, Maine. Even on the wing it was readily distinguishable from the rest of its kind. Some 12.00-16.00 in length, and so a little less than Wilson's Tern, its tail is at least an inch longer, and its entire form is more slender and graceful, so much so as to be noticeable even in the distance. Other Terns appear almost clumsy in comparison with it.

The bill is black, except, perhaps, a slight patch of orange at the base below; the silvery curtain above is lighter and more exquisitely delicate, even, than in the rest of the Terns; the black cap extends well down the nape; the feet are dark orange, and the under parts are white, tinted throughout, even including the tail-coverts, with a delicate rose, the texture and color of the plumage being such as scarcely to

be rivaled by the most exquisite rose-tinted satin. The newly shot specimen is simply charming, but the brightness of the plumage is not retained after death. Indeed, all the Terns seem to lose their highest beauty when cold, their extreme delicacy of color being consistent only with the warm glow of life. A bird is a highly specialized and beautiful object, especially the more chastely colored birds of the sea; but what on the whole Atlantic can equal the graceful form—bill and crown of ebony, back of burnished silver, hoary dark-tipped wings, and breast of blushing rose—of this Roseate Tern? The more gorgeous birds of the tropics compare with it, only as the dahlia and the peony with the rose and the water-nymph. In motion it is no less charming, its flight being peculiarly airy and dashing, the slender pointed wings and long forked tail being the most graceful possible.

The note of this Tern always advised me of its presence. I could not make out the "*hew-it*," repeated at frequent intervals," but only essentially the same *ter-r-r-r-r*, *ter-r-r-r-r*, as given by the other Terns, only on a lower key and in a rougher, hoarser tone, or occasionally in a much higher tone, as if aspiring to a fine falsetto. Muskegat Island, near Nantucket, seems to be the principal breeding place of this species.

I did not see Forster's Tern (*Sterna forsteri*) in Nova Scotia. New England ornithologists testify to its rarity on their coast. Its place of breeding is believed to be in the upper regions of the Great Lakes. Only a few nest, like Wilson's Terns, on the muskrat-houses of St. Clair Flats. Mr. Maynard informs me that they have bred in large numbers on Cobb's Island, off the coast of Virginia. About the size and form of Wilson's Tern, this species seems to be the counterpart of that, the under parts being pure white

instead of drab, and the tail silvery instead of white, the outer vane of the long outer feathers, white, and the inner darker than the rest of the tail. In the winter plumage it is distinguishable by the disappearing of the black crown, except a black stripe on each side of the head. Its note is similar to that of the Common Tern, but noticeably on a lower key.

The nesting of the four species of Terns above given is quite similar, and under certain circumstances quite variable. Commonly, the nest is a depression in the ground, with a slight arrangement of dried grasses. If the nest is in the grass, it may be quite well built up; if on the shore, it may be only a slight hollow in the sand; or fine pebbles or bits of slate may be circularly arranged, after the manner of the Killdeer; or the egg or eggs may be laid directly on the green sward. The complete number of eggs is most commonly two, often one, sometimes three. About 1.74×1.13 and regularly ovate, they are some shade of light-green or light-brown, variously specked, spotted and blotched with dark-brown and neutral, the markings predominating at the large end.

In some breeding places near the southwest end of the province, I could identify none but the Arctic Terns; and so could feel very well assured that I was examining nothing but Arctic Terns' nests; but where several of the above species of Terns breed in community, I do not see how the eggs and nests can be specifically determined,—their similarity is so great, and the birds invariably leave the nests before one comes near them. From eggs well identified, I should think that possibly the ground-color of the eggs of the Arctic tends rather to green, and that of the Wilson to brown. More than that I could not affirm, as to any appreciable difference in the eggs of these two species.

The Caspian Tern (*Sterna caspia*), a much larger species even than the Royal Tern of the South Atlantic, must be found on the coast of Nova Scotia in the migrations, for it breeds far to the north, and "must be considered a regular visitor every season, and one by no means uncommon," on the New England Coast.

THE LAUGHING GULL.

Amidst the clouds of Terns on Flat Island could be seen some eight or ten Black-headed or Laughing Gulls (*Larus atricilla*). They generally arose from and kept near a slaty ridge which ran lengthwise through the island, and from their greater size, more robust form, and complete black or dark plumbous head, were very conspicuous among their smaller and more delicately formed neighbors. Its dignified, buzzard-like sailing, too, amidst the constantly moving wings around it, marked it as a Gull. From the hoarse clatter of the Terns, one could distinguish its long-drawn, clear note, on a high key, sounding not unlike the more excited call-note of the Domestic Goose; and every now and then it would give its prolonged, weird laughter, which has given rise to its common name. To one who has heard it, it might be imitated by the syllables, *hah-ha-ha-ha-ha-hah-hah-hah*, all of which are uttered on a high, clear tone, the last three or four syllables, and especially the last *one*, being drawn out with peculiar and prolonged effect; the whole sounding like the odd and excited laughter of an Indian Squaw, and giving marked propriety to the name of the bird. I was much surprised to find this so-called southern species so far north. Mr. Everett Smith, of Portland, Maine, had given me no encouragement as to finding it about the coast of that State; and Mr. J. N. Clark, of Saybrook, Conn., thought it but an uncertain resident in

his district. How eager was I to find the nest of the Laughing Gull in Nova Scotia. The gentleman who accompanied me, though no ornithologist, caught my enthusiasm, and having a keen eye, and being a natural hunter, he soon descried a nest with two fresh eggs. It was quite a nest, composed of weed-stems, small sticks and dried grasses. The eggs, some 2.20×1.60 , were rather dark olivaceous-brown, almost the color of a Loon's egg, variously spotted and blotched with dark brown and neutral. The eggs of this species are commonly much lighter, resembling in color and form those of the Gulls and Terns generally. The nest under consideration was placed on one side of the slaty ridge referred to, at its base, just where a marshy flat with low shrubbery began. Indeed, it was under the edge of the first row of alder bushes.

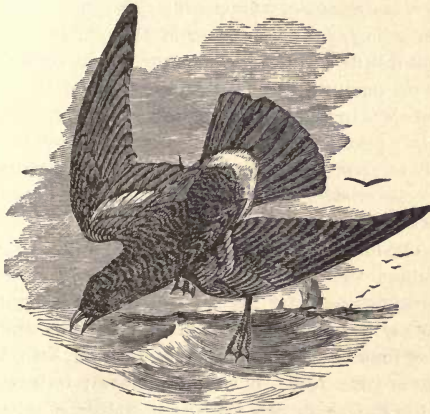
The Laughing Gull is about 18.00 long; wing, 12.00; tarsus, 2.00; middle toe and claw, 1.50; bill, 1.75; tip decurved and pointed; gonyms prominent and sharp; mantle clear, dark silvery-gray; head, slaty-black; eye-lids, white; first primary, nearly all black; the black decreasing on the following primaries to the sixth; the few white tips small or wanting; bill and feet, dusky carmine. In winter, head white, with grayish spots about head and neck; the feet and bill, dusky. The young are brown above, and grayish or whitish below.

This is particularly a bird of the sea-coast, breeding but sparingly along New England, but becoming more common southward, and breeding in great numbers along the South Atlantic States, and even to the Bahamas. When associated in great flocks, and circling high in air, their pure white under parts, with the head and wing-tips like black specks against the sky, give a peculiarly novel and beautiful effect; while their social nature, high grade of intelligence, and striking vocal imitation of human laughter, bring them near

to our sympathies—almost into communion with human ideas.

LEACH'S PETREL.

About five miles beyond Flat Island, and farthest out at sea of all the islands in this locality, is Green Island, as it is called in the vicinity, or Grass Island, as set down on the



LEACH'S PETREL.

maps and charts. Comprising about twenty acres, it is surrounded by bluffs of rock, these being, no doubt, the outcroppings of its solid foundation. The surface is a beautiful bright green—an oasis in this ocean desert. The soil is a soft, brown, vegetable mould, appearing like bog-turf, and showing that the position of the island was once very different—a swamp, perhaps, in the midst of the sea. A number of islands along the coast of the province have this appearance, and there are several at different points bearing the name—Green Island. Having secured a fine little sailing

yacht at Mahone Bay, I had some difficulty in finding men willing to make the trip to this island so far out at sea, and where it is possible to land only in calm weather. The day chosen was delightful, the sea smooth, and the wind so favorable that we sailed out and back without tacking.

The great desideratum in visiting this spot was the study of the breeding of the Petrels, or Mother Carey's Chickens. I was not a little surprised when one of the company told me I could smell the birds before we reached the island if the wind were in the right direction. I protested that he was simply practicing a joke on my credulity, but he seemed veritably in earnest. Very truly, on approaching the island on the leeward side, and while yet several rods distant, the peculiar musky odor of the Petrels was in every breath of the wind. The long swells carried our small boat, towed out for landing, well upon the huge rocks, where we were most cordially received by the keeper of the light-house which the government has stationed here. The same Terns which we found at Flat Island were breeding here, also, on the ledges of the rocks, but in moderate numbers; and a few of the Puffins, or Sea Parrots as they are called here, had found a breeding place in the deep crevices of the rocks. The Petrels, however, were the marvel of the place. Nearly every square yard of turf was completely honey-combed with their nesting burrows; and everywhere the air was laden with their peculiar odor. Here and there the ground was strewn with the wings and tails of the birds which had been dug out and eaten by the dog belonging to the light-house; the dog being kept without feeding, and obliged to support himself entirely by this enterprise. The burrows of the year were readily distinguished by their fresh appearance and by the excavated dirt newly thrown out.

Down on hands and knees we went to work, digging for the sitting birds. The reddish mould, staining hands and clothing of the operator, was quite mellow; and following the sinuous course of the burrows, generally several feet in length, the birds, each with its single egg, were soon brought to light. Occasionally the burrow contained two birds and no egg, the pair probably cohabiting previous to incubation. On being unearthed, the birds seemed perfectly astounded and stupid—dazed, perhaps, from having the light of day thus suddenly let in upon them. Sometimes they would sidle off the egg; often they would permit themselves to be taken without any effort to escape. If thrown into the air they would come down again almost or quite to the ground, striking against any object which might happen to be in their way. Only after a few seconds could they command their wonted agility and swiftness of wing. Frequently, if taken in the hand, or flying against a bush or a stump, they would vomit the clear yellow oil from which their peculiar odor arises, and which is common to the whole family of Petrels. This was Leach's Petrel (*Cymochorea leucorrhoea*), which breeds commonly along the coast of Nova Scotia, and also on the northeastern coast of Maine. About Mud and Seal Islands, N. S., their nests could be found all through the woods—in the ground, in rotten logs and stumps, and under the roots of trees. About 8.50 in length, 18.50 in extent, with wing 6.25, tail 3.25, bill .72, and tarsus 1.02, the color is sooty-brown, darkest on the wings and tail, the wing-coverts ashy, and the tail-coverts white. About 1.30 × .95, oval, both ends alike, the egg is white, with a wreath of delicate light-red spots around one end, the spots sometimes clustering about the point, or the egg may be pure white. As it is laid on the damp earth, or at most on a few rootlets still retaining the

red mould—seldom on a few dried grasses—it is generally quite soiled.

On approaching the breeding grounds in day-time, not a Petrel is to be seen. Those which are not in their burrows are far out at sea. As night comes on those in their burrows sally forth, and those out at sea come in; and where they breed in large numbers, the whole night long till the dawn of day, the air seems alive with them. They hurry-scurry near the ground, and cut through the air higher up, passing and repassing each other, and uttering their peculiar twitter, until their clatter and noise become a positive nuisance. The night is, indeed, their time of rendezvous.

Out at sea their flight is truly beautiful, very much resembling that of the Swallow. But for its conspicuous white spot on the rump, the unpracticed eye might easily mistake the species for a Black Martin. Tossing and dashing hither and thither, it seems to toy and sport with every breeze. No gale can overpower its vigorous flight. Playing on the very crest of the wave, ever and anon it will drop into the leeward of the heavy billows, to enjoy the temporary calm of those gorges and ravines of the sea. Noticeable to every eye is its patting the surface of the most troubled waters with its tiny webbed feet, thus, Peter-like, walking on the waves, and so acquiring its common name—Petrel.

In day-time it is nowhere to be found along the shore, but miles out at sea it is the constant companion of the fisherman; sporting under the bow or the stern of his boat, gorging itself with bits of liver thrown overboard, or taking, perchance, the coveted morsel even from his hands. Great numbers accompany the fleets of fishing vessels on the banks. Ships at sea are followed for great distances by these little creatures in search of the bits thrown overboard by the cook.

Wilson's Petrel (*Oceanites oceanus*) has very much the same range and about the same habits as the above, but is not known to breed so far south. Mr. Maynard had pretty good evidence of its breeding in the Magdalen Islands, though he did not find its nest. Some 7.25 long, and 13.30 in extent, it is about 1.20 inch shorter than Leach's Petrel, though its tail is fully 1.75 longer. Except the white base of the tail feathers, and the yellow centers of the webs of the feet of Wilson's Petrel, the color of the two species is about the same. Its legs, however, nearly one-half longer, and the long tail scarcely forked, as well as the slender appearance of the bird generally, sufficiently differentiate the Wilson to a discriminating eye. The egg is said to be some $.82 \times 1.12$, chalky white, and occasionally spotted or wreathed with purplish.

The Stormy Petrel (*Procellaria pelagica*), so well known in the north of Europe, to say the least, is very rare on our coast. Messrs. Verrill and Boardman accredit it to Maine, and Audubon affirmed it to occur on the banks of Newfoundland and off the coast. Mr. Maynard, however, has never seen it, and the late work on "New England Bird Life," by W. A. Stearns, edited by Dr. Coues, affords no personal attestation. The color of this species is very similar to that of the two former, except the white axillaries or wing-linings, by which it may always be distinguished. It is also noticeably smaller, being only 5.75 in length, and 13.50 in extent; and the tail is rounded.

THE SHEARWATER.

On reaching the coasts of Nova Scotia, many inquiries were made of me by the seamen concerning a bird they called the Hagdon or Haglet. After keeping watch for it several weeks, I finally met it some miles out, in a thick fog

and on a rough sea. A large and odd looking bird, it was some 20.00 long and 45.00 in extent; the wings being very long, narrow and pointed, the tail very short, and the general color a brownish-gray, like that of an immature Gull. It was no doubt the Great or Wandering Shearwater (*Puffinus major*), in form and habits strictly like the Petrels,—a sort of giant among his diminutive brethren. This was no doubt an immature specimen, as the mature bird is white underneath, and, breeding far north, would not be likely to be found in this latitude in early summer. It is common, however, on the banks of Newfoundland and on the fishing grounds near Sable Island, accompanying the fishing vessels in search of the offal. In winter it is more or less common off the New England coast. Its breeding habits are said to be similar to those of the Petrels, depositing a single white egg in a burrow in the ground, or in some recess among the rocks.

The Fulmar Petrel (*Fulmarus glacialis*), is occasionally found off the coast of New England, and as it breeds very far to the north, it must also be an occasional visitor at least off the coast of Nova Scotia. Nearly 20.00 in length, and 32.00 in extent, it is a large species of its kind. Robust, back and wings bluish-ash, primaries brownish, head and under parts white, it bears a strong resemblance in color to the Common Gull. The young have also a gray plumage, similar to that of young Gulls. The Fulmar Petrels breed in holes of rocky cliffs, and feed their young, at first, with an oil which they vomit on the slightest provocation. The one elliptical, white egg is some 2.78×2.02 .

Mr. Stearns describes the Sooty Shearwater (*Puffinus fuliginosus*) as "dark sooty-brown, blackening on the quills and tail; paler and grayish below, usually with some whitish on the lining of the wings. * * * Length, 18.00;

extent, 40.00." He reports it as common off the coast of New England, where it is known as the "Black Hagdon." As its breeding place is far to the north, it must be at least a winter visitor off Nova Scotia.

THE BLACK-BACKED GULL.

Among the outer islands off Mahone Bay, I occasionally saw the Great Black-backed Gull, or Saddle-back (*Larus marinus*), flapping its immense wings most majestically just above the water. I am credibly informed by old settlers that this species used to breed quite commonly on the islands off the coast of Nova Scotia years ago, and I presume a few breed still on the outer and less frequented ones, as it does on one island, at least, in the Bay of Fundy. Over 30.00 long, and some 65.00 in extent, the blackish slate-colored curtain contrasting strongly with the pure white of the other parts of the body, this is a most strongly characterized and magnificent bird, and is so wary that it is difficult to come even within rifle-range of it. As is the case with the Gulls generally, the head and neck are streaked with dusky in winter. The ashy-gray young are lighter than the young of the Herring Gull. The nest is on the ground or on ledges of rock, pretty well piled up, after the manner of Gulls. The bluish or brownish-drab eggs, spotted and blotched with brown and neutral, are some 2.97×2.25 .

The large and elegant Glaucous Gull (*Larus glaucus*), about the same size as the former, and occasionally found in New England in winter, is no doubt on the coast of the province at that time. Its chaste figure of pure white, even including the primaries, barely relieved by the light pearly-blue mantle, is readily distinguished. The young are streaked and spotted with ashy-brown.

Of similar habitat with this last is the White-winged Gull (*Larus leucopterus*). Some 24.00 long and 52.00 in extent, and precisely like the former in color, it would seem to be simply a noticeably smaller pattern of the same; and bears even a closer relation to it than does the Ring-bill to the Herring Gull. The White-wing is so nearly the size and color of the last as to be distinguishable from it in flight only by the white primaries. The young are said to be "pale yellowish-brown throughout, faintly mottled with darker, and with primaries dusky at the tips."

Of course the noisy little Kittiwake (*Larus tridactylus*) must be here, for it breeds as far south as Bird Rock, in the Gulf of St. Lawrence, and frequents the harbors along the coast of New England in winter. Some 16.50 long and 36.50 in extent, with tail slightly forked, and hind toe very short, it has the back and entire wing dark ashy-blue, becoming lighter toward the black tips of the primaries. Remainder white; bill yellow, and feet black. Head and neck tinged with ashy-blue in winter. The young are marked with black on the back of the neck, with a line through the wing, outer two-thirds of some four or five primaries, and tip of the tail. The nest is on the rocks. Eggs, 2.22×1.65 , yellowish-buff, with round marks of brown or lilac.

CHAPTER XXI.

NEW JERSEY COAST AND THE OSPREY.

SEVERAL summer vacations spent around Sandy Hook and Barnegat Bay, on the New Jersey coast, left a vivid impression on my mind of that grand bird, the Osprey, or Fish Hawk (*Pandion haliaetus*). About 24.00 long and 68.00 in extent, in structure and bearing this species is much more an Eagle than a Hawk. Rich dark-brown above and white beneath, the tail is barred with dusky, the sides of the head are white, with a dark band through the eye, thus marking the bird quite noticeably even in the distance. There is a band of light brown spots across the breast. The most differentiating feature, however, of the Osprey is the short, close feathers of the legs, thus leaving these large, blue, round-scaled members entirely without the long flowing tufts so characteristic of the legs of Hawks and Eagles generally. The long, acuminate, erectile feathers of the crown and the back of the neck are especially graceful. The younger specimens have the dark feathers above tipped or edged with whitish. Of world-wide distribution in its several varieties, our American representative may be found more or less throughout the continent, but especially coast-wise. Wintering in the south, its vernal and autumnal migrations along the middle districts of the Atlantic seem singularly coincident with the equinoxes. About the 21st of March, when some of the largest and most important

shoals of fish arrive on these coasts, this well known Hawk appears as a welcome herald to the fisherman; and about the 23d of September it departs for the south.

Along the New Jersey coast the bird is very abundant, its flight over land and sea, but especially over the latter, being a marked and beautiful feature of the landscape. From the waters alone it derives its sustenance. Though its early northward migration, while ice and snow may still abound, render its fishing precarious, it is never known to seek any prey on land. Sailing with almost motionless wings in grand easy circles, the great length and peculiar curvature of the wings readily designating the bird to the eye, its constant search for food would seem the mere play and poetry of motion. Occasionally its circles in flight are so small that it almost seems, indeed, to be turning "in the air as on a pivot." Frequently the flight is low over the water, but it may range to a very considerable height, the eye being keen enough to descry its prey at the bird's greatest elevation. In the act of capture it may drop lightly on the water, and almost pick up its struggling object in a gull-like manner; or it may shoot down from a considerable height, and fairly plunging in swift pursuit, lift out a fish of six pounds or upwards.

When several feet above the water, it seems to hesitate with a quivering motion, as if shaking off the water, spaniel-like, or perhaps to grapple its prey more firmly; then, moving off with a vigorous stroke and bearing its prey lengthwise and head foremost, it seeks the land, more commonly some tree, on which to devour it. Not infrequently it may hover with a firm flapping of the wings in quest of its object, sailing on if disappointed; and again almost plunging in eager pursuit, it may still fail of capture, but is never overexcited or disconcerted, seeming to know that there are

plenty of fish in the water, and those as good as ever were caught. Is not the wide waste of waters at its command? Is it not the most skillful of fishermen? Why worry then over a mishap or failure! Even if the Eagle, on the alert, swoop down upon it, and compel it to drop its well-earned prey, it will submit with comparative coolness. This robbery by the Eagle, however, probably does not occur nearly so often as one might infer from the books.

There is no doubt that the Osprey sometimes miscalculates the size and strength of the fish he would seize, and striking into it his sharp and much curved claws, is neither able to raise the fish nor yet to extricate himself, and so is drawn under to perish with his prey in his grasp, the remnants of both being thrown up on the shore together; or the surviving fish may be afterwards caught bearing the skeleton or remains of the Hawk on its back.

The nest of the Fish Hawk is a common appurtenance of the landscape, along the coast under consideration. No eye can miss it, for it is an immense affair, built of sticks, coarse weeds and rubbish in general, lined with sea-grass, the whole being sufficient in quantity to fill a good-sized dump-cart. It is placed in a tree anywhere from 10-50 feet from the ground. If the tree be not dead when chosen, it does not long survive the huge wet pile, generally containing no small quantity of material from the salt water; and as the bulk is increased by repairs, not only in spring before incubation, but also in the fall before the birds depart, the foundations give way in time, and the unsightly mass is precipitated to the ground. I was informed of one of these nests being built on the top of an old chimney, after the manner of the European Stork. The eggs, generally 3, sometimes 2 or 4, are about 2.39×1.76 , creamy white, sharply spotted and blotched with light-brown and umber,

the large end being often covered, or occasionally the ground-color of the whole egg obscured, by the markings. They are laid, in the Middle States, about the first of May, and the young, covered at first with a white down, are hatched early in June. They keep to the nest till full-grown, and are even fed by the parents in the air after flight would seem complete.

THE FISH CROW.

The nest being a common resort of the Fish Hawk throughout the season, my attention was one day especially called to an empty one on which a Hawk was unusually boisterous over a large fish. These birds are generally noisy when on land, but this time there was a particular significance to the loud squealing racket. A Fish Crow (*Corvus ossifragus*), readily known by his hoarse, guttural cawing, was perched near by in the tree. Being also, as his common name implies, of piscatorial appetite, he had come to dispute the right of the Hawk to the fish. How saucy on the part of this little specimen in glossy-black to put in a claim to the bill of fare so well earned by his stately neighbor! How undignified in the Osprey to utter one querulous syllable in recognition of the sauce-box!

Some 16.00 long and 24.00 in extent, the Fish Crow is noticeably smaller than his larger brother, so well known here in the north. Also his coat has a brighter gloss, and his feet are proportionally smaller. A bird of our more southern sea-board, and found there in great abundance, it is more or less common about "the upper New Jersey coast, Long Island, lower Hudson Valley, and the coast line of Connecticut, and an occasional visitor to Massachusetts." Reported on good authority as migratory, pressing into our southern coasts in great numbers on the

approach of winter, it is now well made out by Mr. Wm. Dutcher and others to be a winter resident, even in its most northern habitat. Probably while the greater number migrate, some remain. This species may be found on rivers and other bodies of water more or less in the vicinity of the sea. It feeds quite commonly on dead fish, but also on any garbage found about the water, and is specially fond of certain lizards, which swim with their heads above the water, and which it captures alive, and it is also a voracious devourer of the eggs of other birds, especially those of the water-fowl breeding along or near the sea-coast.

Its nidification is very similar to that of the Common Crow. Size of eggs some 1.45×1.10 .

THE SEA-SIDE SPARROW.

From the sedges and the tall marsh-grass near the sea, I frequently heard the peculiar song of the Sea-side Sparrow (*Ammodromus maritimus*). The melody has but few notes, the first several being liquid but abrupt, and the last two or three somewhat prolonged. Generally the singer is hidden from sight, or can barely be seen as he swings in the moving tops of grasses and sedges; but occasionally he will toss himself up into the air, after the manner of the Long-billed Marsh Wren, his song then becoming a resonant twitter. The singer is always much excited, ruffling his feathers, spreading his tail, and shaking himself enthusiastically. About 5.50 long, the bill is somewhat lengthened and slender, the tail feathers short, narrow and pointed, the wings short and rounded, and the feet very large. The color is olive-gray above, streaked with dusky; beneath, ashy-white, clearer on the throat and darker on the sides and flanks; sides of the head and rather obscure streaks below, dusky; line from the bill over the

crown, ashy; spot over the eye and shoulder of the wing, yellow. On the mud, among the tall growths of the salt and brackish marshes, they seek their food of tiny mollusks and aquatic insects; and the somewhat "gourd-shaped" nest, with a small opening on the top or side, is either on the ground or fastened to the coarse grasses near the ground. It is composed of coarse grass and lined with finer, sometimes with fine rootlets, and contains 4-6 dull white eggs, finely spotted and specked with several shades of brown. Wintering in great numbers in the salt marshes of the Southern States, it breeds from the Gulf to Connecticut, coming north in April and going south before the ground freezes.

THE SHARP-TAILED SPARROW.

In similar situations and with similar habits to those given above, we find another species of this same genus, the Sharp-tailed Sparrow (*Ammodromus caudacutus*). "Rather smaller than the last, bill still slenderer, and tail feathers still narrower and more acute," the olive-gray upper parts are more sharply streaked with blackish and whitish; instead of the yellow spot above the eye, the eye-brows and cheeks are buffy or orange, and the lower parts are white, with breast and sides more sharply streaked with dusky. The nest is on the ground, pretty much concealed with dry grasses, of which it is also composed, and they breed somewhat in community. The four or five pale-blue eggs $.77 \times .58$, finely specked with reddish, are laid rather late in the season. This little Sparrow is exceedingly active, inhabits marshes farther from the shore than does the former, and extends its summer residence farther north, being common about the coasts of Massachusetts and even to New Hampshire. It has a very poor voice, its song being regarded as the weakest of all the Sparrows.

THE CAROLINA WREN.

In tangled thickets, made almost impenetrable by the rank festoons of the common smilax, I occasionally found the Carolina Wren (*Thryothorus ludovicianus*). This rather southern species, though wintering commonly in Virginia, scarcely reaches, regularly, a higher latitude than 42°. Some 5.75 long, it is noticeably larger than the rest of our Wrens, which it resembles strongly in color, however, the most differentiating mark, in this respect, being the yellowish-white eye-brow extending down the sides of the neck.* The bill is considerably curved. In the extent and manner of its activity this species is every whit a Wren. All observers have been impressed with its song, which is loud, voluble, melodious, and delivered at about all times of the year. The nest, generally in some cavity, often in buildings, is a hollow ball, with an entrance in the side, composed outwardly of sticks, leaves, and coarse fibers generally, and lined with fine fibrous or grassy materials. The 6 eggs, .77 × .58, are creamy-white, variously marked with reddish-brown and lilac, in a wreath or cluster at the large end.

THE PRAIRIE WARBLER.

In the pine groves of second growth I occasionally found the Prairie Warbler (*Dendroica discolor*). This pretty little species, only 4.50 long, is olive above, the back being marked with reddish-chestnut spots; sides of the head, yellow, with lores and a streak beneath the eye, black; throat and under parts rich yellow, with small pointed spots of black down the sides of the neck and under the wings. The female lacks the black line under the eye, and has the chestnut spots on the back, and the black spots on the sides, less distinct. Breeding anywhere from New England to Key West, it occupies the bushy pastures in the former limit of its

* Florida affords a larger and darker form of this species, var. *miamensis*.

habitat, but the "hummocks," and even the submerged tracts of mangroves in Florida. The song is a unique trill on an ascending scale. The nest, set in an upright fork of a bush, or tied to several disconnected shoots, is compactly formed of coarse bark-shreds and weeds externally, bedded and lined with vegetable down and fine grasses. The 3-5 eggs, $.62 \times .52$, rather large for the bird, are white, pretty heavily marked with light brown and lilac.

THE BLACK TERN.

Sitting under a screen, late in August, in some secluded nook in Barnegat Bay, every now and then one may be surprised by the dashing flight of a flock of Black Terns (*Hydrochelidon nigra*). In spring, notwithstanding the gray back, wings and tail, and white crissum, the more conspicuous sooty black of the head, neck and under parts, fully justify the common name; but during the late summer and autumn plumage, that name seems quite inappropriate, for then, except the dusky back of the head, and the ring around the eye, the black parts of the spring dress are white. Though reaching the sea-coast in the migration of late summer, this Tern, unlike the rest of its family, is not a bird of the sea-side, but of the flooded marshes about our lakes of the interior. I found it breeding in great numbers in June on St. Clair Flats. Its sooty form, finely set off by its silvery wings and tail—the wings rather broad and the tail but slightly forked for a Tern—was constantly in sight, as it fished along the channels; and its rather musical piping note was in hearing almost night and day. Here and there, among the vegetable growths in the flooded marshes, they nested more or less in community, where, if an intruder approached, their little breasts would be filled with rage, their loud notes then reminding one of the screaming of the Robins under like circumstances of excitement. The nest

is a rude and slight arrangement of weather-beaten and partly decayed rushes, placed on a bit of floating slab, or on one of those compact, floating beds of debris, which become anchored in large quantity in the bends of the channels, or among the sedges. On this water-soaked affair, the eggs, 1-3, are placed, some $1.32 \times .95$, varying from brown to dark-green in color, spotted and blotched with several shades of dark-brown and neutral. Always dark, they vary greatly in form, ground-color and marking. This Tern, some 9.50 long, winters south of the United States.

THE BLACK SKIMMER.

On Barnegat Bay, especially about the inlet, I used to see occasionally some half-dozen Black Skimmers (*Rhynchops nigra*), flying closely as they skimmed the surface in search of their food of small fry. Length, 17.50; stretch, 42.00; upper parts black; forehead, tips of secondaries, outer webs of tail feathers, white, this species might pass for a large black Tern, were it not for its peculiar bill. The lower mandible, some 4.50 long, is as flat as a knife blade, the upper edge fitting into a groove in the upper mandible, which is about an inch shorter. With this strongly specialized member, it plows the surface of the water at flood-tides, when its food is most abundant near the surface. Few instances, even in bird-life, can furnish a more obvious evidence of design. Here is a species which, from the length of its wings and neck, the shape of its bill and its mode of flight, is evidently designed to take its food in a peculiar manner—by skimming or plowing the surface for the small fry which approach it in flood-tides. In Florida, where it is found throughout the year, Mr. Maynard reports it as feeding mostly at night or in cloudy weather. Breeding in communities on the sandy beaches, as far north as New Jersey, the eggs, 2 or 3, are placed in a hollow in the sand.

About 1.75×1.37 , they are white, marked with dark brown and lilac, the blotches being clear-edged and strong, thus readily differentiating the eggs.

THE MARBLED GODWIT.

Occasionally during August, the gunners about the bay would take the Marbled Godwit (*Limosa fæda*). Length 18.50, stretch 31.00, bill 4.05, it is dark brown, variously marked with reddish-yellow; the wings and tail reddish-yellow marked with brown; beneath, a fine light-red, lightest on the throat, and streaked and banded generally, except on the abdomen, with brown. This fine species is readily recognized by its color, its large size and slightly upturned bill. Though common in winter from the Carolinas southward, especially in Florida, it is rare on the Atlantic Coast to the north in summer. It is abundant, however, west of the Mississippi, breeding in great numbers about the ponds and shallow pools of Minnesota, Dakota and the Northwest Territory. The nest is a slight arrangement of dried grass, in a depression in the ground. The eggs, 2-4, 2.22×1.47 , long-oval, are creamy or buff, rather sparsely marked and blotched with light-brown and neutral. This species is occasionally found on the Niagara in the migrations.

The Hudsonian Godwit (*Limosa hudsonica*), breeding in the arctics and wintering beyond our limits, is not uncommon on the Atlantic Coast in the migrations. Nearly 15.00 long, and 26.50 in extent, the bill is but 2.25. Of a general resemblance to the former in color, the white in the wings, seen in flight, and that of the rump and in the base of the tail, strongly characterize it, giving it the name of "Spot-rump" or "Ring-tail," among sportsmen. The nest is similar to that of the former, but the eggs, 2.18×1.38 , are dark greenish-brown, lightly marked with dark brown.

CHAPTER XXII.

AUTUMNAL DAYS.

THIS twenty-first day of September (1881) is an ideal day of that delightful month of our clime. Cloudless and clear, warm but not hot, the air purified by recent showers, every breath is an æsthetic inspiration. Ensnconced away among the bushes on the south shore of Johnson's Creek, just opposite the point formed by its oblique entrance into Lake Ontario, I am watching the various water-birds as they alight, all unsuspectingly, on that point. The near sites are within gun-shot, and the furthest ones are easily reconnoitered with a glass. Supposing that you are, my reader, in spirit, at my side, I will try to interpret to you what we see. That little Semipalmated Sandpiper (*Ereunetes pusillus*), moving hurriedly like a gray speck about the shore, is rather late in the season for him. He may return to us from his breeding grounds, in the high latitudes of the north, as early as the latter part of July, and generally is quite common on all our shores and water-courses in August. It is quite out of order, too, for this bird to be thus alone, as it is almost always in flocks, and not infrequently in company with its near relative, the Least Sandpiper (*Tringa minutilla*). I have seen it in large flocks in the month of August, on Niagara River, alighting on the large rafts of logs on their way to the mills of Tonawanda. It is a graceful, active little Wader, reminding one somewhat

of the Spotted Sandpiper, only it has nothing of the teetering motion of that species; and its notes, *tweet-eet, tweet-eet*, are more of a soft, subdued whistle, giving the bird a much quieter and less demonstrative appearance.

Some 6.00 long and 12.00 in extent, this species may vary much in size; the black bill is an inch or more in length and slightly bent; the crown and upper parts are dusky, the feathers being edged with reddish and tipped with white, or simply edged with grayish; rump and tail-coverts, black; wings dusky, marked with white; line over the eye, tips of the lesser wing-coverts, throat and under parts, white; legs and feet, dusky. Its diminutive size distinguishes it readily from all our birds of its kind, except the Least Sandpiper, which it greatly resembles, but from which it is strongly differentiated by its *half-webbed toes*. This species breeds from Labrador to the far north, having a slight nest on the ground, after the manner of other Waders; the 4 eggs, about $1.22 \times .84$, being pale grayish or greenish-drab, or olivaceous, boldly blotched or marked with several shades of brown, mostly about the large end. Passing through the Middle States late in April or early in May, it returns from late July even till early October, feeding leisurely on insects, worms and diminutive mollusks. It is common to North, Central and most of South America. It would seem that it winters for the most part beyond our boundaries.

As I view this little bird on the point, I naturally associate it with its quaint little relative, the Least Sandpiper. The flight of this species, as of that of the above, is straightforward and rapid; and it also passes these middle districts late in April or early in May, raising its young, from the rocky coasts of Labrador northward. Here, its nest is found on "the moss-clad crests of the highest rocks,

within short distances of the sea." This nest is a mere depression in the moss, slightly lined with dried grasses. The 4 eggs, resembling those of the Spotted Sandpiper, are about .92 X .75, light yellowish-drab, blotched and spotted with dark-umber. Like the rest of the Waders, these birds are greatly excited when disturbed in nidification, flying with a whirring noise, which resembles the wing-strokes of a startled Grouse.

As it returns along the Atlantic Coast, any time from the last of July till October, it is sometimes seen in immense numbers, gyrating about brackish marshes, and appearing in the distance like swarms of bees in search of a place of settlement. Using their bills after the manner of Snipe, they search the soft mud and the debris for their fare of aquatic insects, worms and tiny mollusks. At such times their conversational *peep, peep, pip-ip-ip-ip-ip-ip*, or *pidde, pidde, dee, dee*, is cheerily uttered, and suggests how great is the quiet joy of these little creatures in their natural haunts.

Considerably less than 6 inches long, the color and general appearance of this pigmy of its race is very much like that of the Semipalmated Sandpiper, the general effect being darker; and its toes, which are not semipalmated, but divided to the base, are slender and wiry, and so render it readily distinguishable. Many spend the winter in the extreme Southern States.

THE TURNSTONE.

As I continue to gaze across the mouth of the creek I spy a pair of most dainty little walkers, treading their way along the pebbly shore, with an ease and elegance, and a pigeon-like motion of the head, most pleasing through the glass which brings them almost to the end of my nose. The

species before me is the Turnstone (*Strepsilas interpres*), found in every continent of the world, and decidedly the most brightly colored bird of our shores. The gunners on the coast call it the "Calico Plover." About 9.00 long, its shape bears quite a resemblance to that of the Plover, except that its bill, which is shorter than the head, is stout, its tapering point turning up a little, that its legs are quite short, and that it has a well developed hind toe. The upper parts are variously marked with black, rich brown, rufous, and a little white; the head and neck are white, thickly and pretty distinctly spotted with black; the fore part of the neck and the sides of the breast are jet-black; the throat, under parts, under sides of the wings, lower back, longer tail-coverts, base of the tail and the quills, clear white; feet and legs, bright orange. This is the marking of the mature bird in summer, but it varies greatly with the seasons and the age of the bird, the colors and markings becoming quite obscure in extreme cases. The species can always be determined, however, by the peculiarities of form above noted. Of the two specimens now before me, one is quite strongly colored, while the other is very indistinct.

Still looking through the glass, the birds seem just before me—almost near enough to be touched—and as they have not the slightest suspicion of my presence, they are acting themselves out fully. Some one has watched this bird before me, as is evident from its name. Turnstone, indeed, it is, turning over, with its bill, pebbles, shells, small sticks, weeds, and bits of rubbish of all kinds, to find its food of insects, worms, small mollusks and crustaceans. Its stout bill makes a good lever, its short legs give it a strong purchase, and its long toes give it a firm and easy step on the most uneven surface. As it takes wing I notice that its flight and general appearance in the air is almost precisely

like that of the Killdeer. It has also a loud, whistling note.

This bird is found in small numbers along our inland waters. Its home, however, would seem to be more particularly along the sea-coast. Breeding in high, northern latitudes, its nidification is so similar to that of our shore-birds in general as scarcely to need particular description. There are four pointed eggs, 1.50×1.25 , "pale yellowish green, with a few black lines and irregular patches of brownish-red." It is generally seen along the sea in small flocks of some half dozen, but sometimes it joins the Sandpipers.

THE BLACK-BELLIED PLOVER.

Flying along the lake shore, a flock of nine Black-bellied Plovers (*Squatarola helvetica*) alight on the farthest part of the point. They have a gamy, grouse-like look, standing thus at ease on the sand, preening their feathers; and one feels the propriety of their place in classification—next to Partridges and Quails. Nearly cosmopolitan in their distribution, they strongly resemble the Golden Plover, but are readily distinguished, even in the distance, by their large head—giving them the name Bull-head—and by their stout bodies; when taken in the hand, they are found also to have a rudimentary hind toe, thus differing from all the rest of the Plovers.

Nearly a foot long, and more than two feet in extent, this bird presents a rather imposing appearance for one of its kind. When in full summer plumage, the upper parts are variegated with black, yellowish-brown and white; the wings are deep dusky, with white markings; the tail white, crossed with blackish; cheeks, throat, fore-neck, breast and lining of the wings, jet-black; about the head and neck, elegantly bordered with chalk-white. They are then a strikingly

beautiful figure. Such an one did I meet in June (1881), among the Herring Gulls on the rocky shoals of Georgian Bay.

This species varies greatly with age and with the seasons. Its winter habit, of mottled brown and gray above, and white or whitish beneath, is greatly inferior to that of the summer. In all stages of growth it may be distinguished from the young of the Golden Plover by its much larger bill, and by the more extended webbing between the outer and middle toes, as also by its hind toe. A conspicuous feature of this bird is its large, bright black eye, with a white ring around it in summer, giving it the name Ox-eye among gunners. It has a loud, shrill, whistling note. Its food is insects, worms and berries. Audubon and Wilson both give accounts, as from their own observations, of this Plover's breeding in the high inland regions of the Middle States, but at present its nidification seems to be known only in very high northern latitudes. The 4 eggs, 2.00×1.40 , are brownish or yellowish-drab, rather heavily marked with brownish-black about the larger half, the rest of the surface specked with the same.

THE GOLDEN PLOVER.

Occasionally during the day I see moderate flocks of the Golden Plover (*Charadrius fulvus* var. *virginicus*) coming from their gleanings in the lately reaped grain-fields, or flying along the shore of the lake. Just as a most magnificent autumn sunset is tinging the whole atmosphere with its varied hues, a flock of fifty or more coming off the land meet as many more coming in from the lake, and the conjoined flocks, blending completely, perform a great variety of most graceful evolutions. They cut circles above the point, make broad sweeps about the edge of the lake, now flying high, now low, now tipping their backs toward me,

and now throwing up their under parts, the cloud-like figure of the mass changing form every few moments. With what a dashing swiftness they perform their flight, and how perfectly each one keeps his place throughout all the changes, all performing precisely the same movement at the same instant, as if one spirit animated and guided them all! Which one is the leader of these swift forces? How do they all manage to keep so on the alert for every signal? Ah! we only see the birds at a distance, after all, and know but little of what makes up their inner life! As they near me in one of their gyrations, I give them the contents of both barrels of my shot-gun, bringing down enough for my purposes. The flock disappears, but for a long time their peculiar whistling notes linger in my ears.

Nearly 11 inches long, and nearly 22 in extent, the present color of this bird is a sort of compromise between its beautiful summer habit and its plainer winter dress. The color of spring is brownish-black on the upper parts generally, each feather being elegantly spotted about the edge with bright yellow—"old gold," if you please, and hence its common name; the wing-coverts are marked with white, and the dusky tail is barred with the same; primaries of a fine brown; upper part of the forehead, space in front of and line over the eye, dull white; sides of the neck and of the body the same, spotted with brown and yellowish-white; breast and line in front of the neck, brownish-black, the latter margined on both sides with clear white. In the winter habit, the upper parts are similar, but less bright and distinct, while the under parts become light-gray, streaked with darker.

A noted bird throughout the northern hemisphere is the Golden Plover, the species or varieties of the Old World being very closely allied to our own. Spending the winter,

for the most part, beyond our limits, these birds pass the middle districts on their way northward during the latter half of April or early in May, at which time they have not yet reached the perfect beauty of their summer attire. They breed on the barren grounds of the far north and on the islands of the Arctic Seas. Dr. Dall found them common along the Yukon. The 4 eggs, about 1.90×1.37 , are pale brownish-clay color, sometimes approximating to drab, or even approaching white. They are boldly marked and blotched with dark brown, especially around the large end. The nest is a mere depression in the ground, slightly lined with dried grasses or leaves—feathers being sometimes added.

These Plovers are among our most characteristic birds of passage, in the month of September, being as common in the west as in the more easterly regions. When passing from one point to another they fly high, with rapid and steady beat of their long pointed wings. Entering the fields, they fly very low, scouring the region thoroughly, it may be, before they alight. Whether flying high or low, unless the flock be very large, they generally move in lines of many abreast, forming as many curves and angles as so many Wild Geese.

They may eat caterpillars or berries, but their chief relish is for grasshoppers, which they capture most adroitly. When in flight they may be easily "whistled down," and are frequently shot in great numbers. They are often very fat, and their flesh is delicious.

THE KILLDEER.

Our Plover the most familiar to every one, is the Killdeer (*Agialitis vocifera*), which I see almost constantly on the point of land under observation. In the sunny days of March, already he greets us with his half-cheerful, half-plaintive note,

so well expressed by his common name, as scarcely to need further description. Then, even at midnight, while the snow is yet on the ground, you may hear his stirring call as he passes by for regions still farther north. And did you ever hear him without recalling the blooming meadow and the brook? I admire his taste in locating his summer home, in the clover, by some rippling streamlet. Altogether unique, too, is the style of the nest. That circular arrangement of smooth pebbles, peculiar bits of wood, or fragments of shells, is wholly primitive, reminding one of cromlechs and cairns. Inside this little circle, at once so simple and so artistic, the four eggs are placed, the small points of the conical forms touching each other at the center. About 1.45×1.05 , they are of a dark, rich cream-color, well spotted and blotched with blackish-brown—beautifully in harmony with the ground on which they lie. Nest and eggs seem like a natural appurtenance of the field. Occasionally, however, the Killdeer seeks to be in fashion, and builds a nest of dried grasses, or, becoming careless, simply adopts a depression in the ground. Of all the maternal demonstrations so peculiar to Plovers and Sandpipers, none are more emphatic than those of the Killdeer. Fairly rolling and tumbling on the ground, the mother-bird will spread her tail and beat the ground with her expanded wings, crying *oh, dear, dear, dear, dear, dear*, till the hardest heart must relent under her beseeching tones. In this attitude she gives one the full impression of her beautiful colors. Forehead, below the black band between the eyes, eye-brows, and entire under parts, white; upper parts yellowish or reddish-brown; ring round the breast, and a broader one round the neck, jet-black; wings dusky, marked with white; the dusky tail, shading into black toward the reddish and white tips, and flanked with light red, white and dusky, is

especially illuminated by the bright yellowish-red rump and tail-coverts; and not least, as a mark of beauty, are the bright red eye-lids. The young in the down are a faithful pattern of the colors of the mature bird.

While your sympathies are being won by the sorrowful demonstrations of the female, the male is equally active, flying in circles about your head, running around you—he is a very adept at running—and joining most earnestly in the cries of the family.

The young are true representatives of the *precoces*, running well as soon as free from the shell. A nest containing eggs in the forenoon, in the afternoon may have nothing but shells. The young are reared in the same kind of lowlands and river-bottoms, as are chosen for nidification. Indeed, such localities are the home of the species. The first eggs are laid in May, and there may be another set in July.

The Killdeer is well in favor with the farmer, not only because of his familiar notes and spirited antics, but because of his destruction of caterpillars and insects, and particularly of grasshoppers. Wintering abundantly in the Southern and Southwestern States, it may extend even to South America, breeding from Texas far into British North America and to the Pacific.

Plovers are a well-marked group of birds, differing from the more numerous Snipes, Sandpipers, Tattlers, etc., in the rather large head, the shorter bill and neck, and the marked pigeon-like form of the bill, but more especially, perhaps, in having only three toes, the exceptional hind toe of the Black-billed Plover being only rudimentary.

BARTRAM'S SANDPIPER.

By that powerful law of the mind—the *association of ideas*, a bird always connected in my mind with the Killdeer, is

Bartram's Sandpiper (*Actiturus bartramius*); not from close structural affinity, indeed, for the last mentioned is a true Sandpiper, or still more properly a Tattler, but from the fact that I have so often found it breeding in some adjoining locality. On the whole, Bartram's Sandpiper is a much more upland bird than the Killdeer. Its nest may be found even in dry, sandy fields, hence it is often called the Field or Grass Plover. Notwithstanding its grallatorial structure, it seems almost utterly to have forsaken the water, and to have become naturalized to the meadow and the pasture, along with Bobolinks and Sparrows. I generally find it on the rather high level grounds just north of the Ridge, which determines the famous Ridge Road of Western New York, but sometimes even on the Ridge itself.

About 12-13 inches long and 22 or more inches in extent, with the rather long bill and legs peculiar to the Tattlers (the bill being less sensitive in that group than in the Sandpipers), Bartram's Sandpiper has the crown dark-brown, with a median line of light reddish-brown; upper parts generally a rich dark-brown, with black markings or bars running obliquely across the vanings, the edges or tips of the feathers being brownish or reddish-white; the lower back clear brown, deep and glossy; neck, breast, and vent, cream-color; under parts, yellowish-white; the neck streaked with brown; pointed cross-markings on the breast, and the straighter cross-bars on the sides and axillaries, deep brown or black; outer primaries with much dull white on the inner vanes; wing-coverts quite light, crossed with brown; and the long tertiaries deeply edged with light brown, into which the black markings point conspicuously; legs, yellowish. The most elegant part of this bird is the tail, which shades from dark-brown in the center, through various tints

of rufous, to white on the sides, the whole being distinctively marked with black.

Reaching Western New York late in April, and nesting in the latter half of May, its 4 eggs, some 1.82×1.25 , are a warm light-brown, or drab, specked all over with brown, some of the marks about the large end being larger, others, all over the surface, being lighter. There is a noticeably warm effect in the entire coloring. The nest is a mere depression in the ground, generally lined slightly with dried grasses, and occurs here about the middle of May or later. Unless seriously disturbed, the birds are not particularly shy. I have known the female to be caught with the hand on the nest, and to continue sitting after some of the eggs had been broken. Indeed, when so alarmed as to refrain from sitting on the nest, she will linger a whole night near the cold, wet eggs. The young in the down are white beneath, "finely mottled with black, white, and with brown above," and leaving the nest at once, grow rapidly, testing their wings already when only a month old.

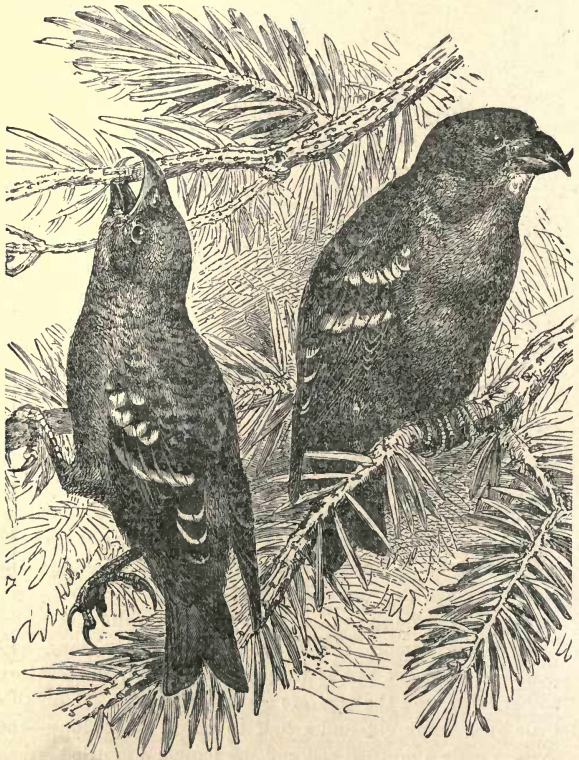
Quip-ip-ip-ip, *quip-ip-ip-ip*, spiritly and rapidly uttered, may represent the ordinary alarm note of this species; but when it alights on the ground, on the fence, or even in a tree, stretching or rather holding its wings straight up for a few moments, it utters a prolonged and peculiar note, sounding like *chr-r-r-r-r-ee-e-e-e-e-oo-o-o-o-o-oo*, the syllable *ee* being strongly on the upward slide, and the syllable *oo* in a marked falling inflection. This prolonged, mournful, mellow whistle, "more like the whistling of the wind than a bird's voice," may be heard even in the night, and is one of the most weird and never-to-be-forgotten sounds in nature. This bird is a swift and graceful runner, and a very adept at hiding in the grass. Its flight is regular, rapid,

and beautiful. Its diet is insectivorous, grasshoppers and crickets being its principal bill of fare here, while in some localities it regales itself on wild strawberries, and in others on the cantharides, the last making its flesh a violent emetic.

Breeding in the Middle States generally, and reaching Maine or Nova Scotia in the east, the Saskatchewan, or even Alaska, in the northwest, and the Rocky Mountains westward, it gathers in families and flocks late in summer, moving leisurely in its southward migration, which may extend even to Brazil. It has been found as a straggler in Europe and Australia. As it nears the south and the southwest in early autumn, it is often in immense flocks. It is said to be especially abundant in Dakota in the breeding season. Its flesh is generally excellent.

THE CROSSBILLS.

Most curious of all the song-birds of the north are the Crossbills. Their most marked peculiarity in structure is indicated by their common name. The bill, which is quite long and deep at the base, is much compressed, especially towards the tips of the mandibles; and these are so abruptly bent—the upper one downward and the lower one upward—that their sharp points cross each other at an angle of at least forty-five degrees. The head is large, the stout jaws, so apparent through the feathers, giving it quite a chuckle-headed appearance; the wings are tolerably long and pointed; the short tail is deeply emarginate; the feet are rather large, and the legs are short and robust. Thus this little bird, some six and a half to seven inches long—the mature male a mottled red and the female a mottled green—bears a crude analogy to a Hawk or an Owl, or even to a Parrot.



THE WHITE-WINGED CROSSBILL.

On this continent we have the Common and the White-winged Crossbills—two distinct species—the latter of which is a little the smaller, having the red of the male noticeably brighter, with bars of clear white on the wings, some of the secondaries of which are also tipped with white, and the wings and tail blacker. The two species of Crossbills in Europe are quite similar to ours.

In habit the Crossbills are about as peculiar as they are in structure. Breeding in the extreme north of New England and northward, they range, very irregularly, southward as far as Philadelphia. In Western New York, we may meet them, as winter stragglers, perhaps, once in four or five years. Sometimes they occur in considerable flocks in the bright days of autumn. The habits of the European varieties seem to be equally irregular, so that the celebrated naturalist, Dr. Brehm, used to call the Crossbills the gypsies among birds, attributing their movements to scarcity or abundance of their peculiar food.

It is well demonstrated that in this country these birds breed in winter, or early in spring. Concerning the nest of the Common Crossbills, Audubon says: "Many persons in the State of Maine assured me that they had found it on pine trees in the middle of winter and while the earth was deeply covered with snow. The people employed in cutting pine timber at that season, when it is easier to remove the logs to the rivers in which they are subsequently floated when the ice melts, have very frequently told me that, on felling a tree, they have caught the young Crossbills, which have been jerked out of their nests." Mr. M. Chamberlain, of St. John, New Brunswick, a gentleman held in esteem as a careful and enthusiastic observer, says in a communication to the *Ornithologist and Oologist* of May, 1881: "I think it was in the third week in January, 1875,

I was out moose-hunting and started a big buck, and, in the chase I found him making a circle, and cut through a bunch of trees to gain upon him. On my way through the thick wood, I stopped to adjust a strap on my snowshoes, and found myself face to face with a White-winged Crossbill on her nest—the high bank of snow under me bringing my head about level with the nest. As I approached closer to examine it, she flew to a branch near by, where I was enabled carefully to examine and identify her. The nest was placed in a fork of one of the main limbs of the tree, and was composed externally of the long, gray moss (*Usnea*) which grew in large patches on most of the trees in this vicinity, and so much resembled these patches of moss as to be difficult of detection. In the inside was a lining of softer moss; and between the lining and the exterior were small twigs interlaced. In the nest were three eggs, of a bluish-white ground-color, having dashes of red upon the larger end.” Other proofs of these birds breeding in winter are not wanting. In the latter part of April, 1875, after a severe winter, Mr. E. P. Bicknell found a nest of the Common Crossbill at Riverdale, N. Y., of which he says: “The nest was placed in a tapering cedar of rather scanty foliage, about eighteen feet from the ground, and was without any single main support, being built in a mass of small tangled twigs, from which it was with difficulty detached. The situation could scarcely have been more conspicuous, being close to the intersection of several roads (all of them more or less bordered with ornamental evergreens), in plain sight of as many residences, and constantly exposed to the view of passers-by. The materials of its composition were of rather a miscellaneous character, becoming finer and more select from without inwards. An exterior of bristling spruce twigs, loosely arranged, surrounded a mass

of matted shreds of cedar bark, which formed the principal body of the structure, a few strips of the same appearing around the upper border, the whole succeeded on the inside by a sort of felting of finer material, which received the scanty lining of black horse-hair, fine rootlets, grass stems, pieces of string, and two or three feathers. This shallow felting of the inner nest can apparently be removed intact from the body of the structure, which, besides the above-mentioned materials, contained small pieces of moss, leaves, grass, string, cottony substances, and the green foliage of cedar. The nest measured internally two and one-half inches in diameter by over one and a quarter in depth; being in diameter externally about four inches, and rather shallow in appearance.

“The fresh eggs are, in ground color, of a decided greenish tint, almost immaculate on the smaller end, but on the opposite side, with irregular spots and dottings of lavender-brown of slightly varying shade, interspersed with a few heavy surface-spots of dark purple-brown. There is no approach in the arrangement of these to a circle, but between the apex of the larger end and the greatest diameter of the egg is a fine hair-like surface line; in two examples it forms a complete though irregular circle, and incloses the principal spots. In the other egg, which is the largest, this line is not quite complete, and the primary blotches are wanting, but the secondary markings are correspondingly larger and more numerous. In another egg there are two perfect figures of 3 formed on the sides by the secondary marks, one of them large and singularly symmetrical. The eggs measure respectively $.74 \times .56$, $.75 \times .58$, $.78 \times .59$.”

The curious bill of this bird is in special adaptation to its food and the manner of securing it. Those sharply-pointed curves of the mandibles serve as the most con-

venient hooks for getting the seeds of the pine, the spruce and the hemlock out of the cones. "On first glancing at the bill of this extraordinary bird," says Wilson, the great ornithologist, "one is apt to pronounce it deformed and monstrous; but, on attentively observing the use to which it is applied by the owner, and the dexterity with which he detaches the seeds of the pine-tree from the cone and from the husks that inclose them, we are obliged to confess, on this, as on many other occasions where we have judged too hastily of the operations of nature, that no other conformation could have been so excellently adapted to the purpose; and that its deviation from the common form, instead of being a defect or monstrosity, as the celebrated French naturalist insinuates, is a striking proof of the wisdom and kind superintending care of the great Creator." The hooks of the bill are also used as instruments for climbing, after the manner of the Parrots, as is shown in the accompanying engraving.

CHAPTER XXIII.

REMINISCENCES.

IN my first ornithological studies in Northern Ohio, the most charming bird of all which attracted my attention was the Cardinal Grosbeak (*Cardinalis virginianus*.) Throughout the winter, almost every patch of woods near a corn-field of the year before contained a pair—male and female—but never more than a pair in the same vicinity. Indeed, the species seemed much more common in winter than in summer, and so was a sort of large, gay snow-bird. On approaching its haunt, I was advised of its presence by its loud, sharp, chipping note, quite distinguishable from any other sound in the woods. About eight inches long, and most elegantly formed, the most noticeable features of the Cardinal are the rather long and somewhat rounded tail, and the beautiful crest. The bright vermilion of the male—the upper parts darker, and the feathers of the back fringed with bluish-ash—renders him a most conspicuous object in the leafless trees and the snowy landscape. From a nearer point of view, the jet-black of his chin, front and lores, and the roseate tint of his thick bill, set him off to fine advantage. Every movement is elevated and stately. In form, color and motion, he is the very ideal of elegance and beauty. In form and gracefulness, the female is his exact counterpart. Of a fine yellowish drab on the breast and sides, and dusky-olive over the back; her crest, wings and

tail, tinged with vermilion; her chin, front and lores, deep dusky—if less brilliant, she is scarcely less beautiful than her gay consort.

The loud, sprightly, and somewhat varied whistling, which constitutes the song of the Cardinal, has always commanded admiration. In those southern climes where the species finds its most congenial home, and where it is an abundant resident throughout the year, it is in song from March till September. Nor does it render a mere matin or vesper hymn, but may fife its loudest, clearest melody at almost any hour of the day. In the breeding season its song is almost as full of enthusiasm and gesticulation as that of the Purple Finch. His shy ways, in the northern limits of his habitat, as he hops slyly about the thicket in winter, or retires to the deep forest in the breeding season, are strangely in contrast with his familiar ways in the south. There he may dust himself in the highway till you almost trampled upon him, may build his nest as near human dwellings as does the Thrasher or the Mockingbird, or visit the farm-yard in company with Sparrows, Jays and Turtle-doves, to share the food of the common poultry in winter. Everywhere his bright figure and sprightly ways render him welcome. Being readily caught in a figure-four or trap cage, and thriving on almost any kind of food, he is in great favor as a cage-bird of beauty and of song. In the early history of our country he became almost a commercial item, being carried to the Old World in great numbers, where the admirers of his sprightly melody called him the Virginia Nightingale.

The nest of the Cardinal is in a bush or tree, somewhat after the manner of the Catbird, in the north, or the Mockingbird, in the south; and is made of dry leaves, small twigs, strips of bark from the grape-vine, and coarse grasses,

the lining being of fine grasses carefully laid. The 4-5 eggs, 1.00X.80, are white, sometimes tinged with green or gray, more or less spotted with light brown and lilac, and sometimes heavily marked all over.

This species, so abundant in the south and southwest, is found, more or less commonly, as far as the south side of Lake Erie. In Western New York and to the eastward, north of Virginia, it is but an occasional straggler. It has been found, however, even as far north as Nova Scotia.

THE TUFTED TITMOUSE.

Among my first happy surprises in ornithology was the Tufted Titmouse (*Lophophanes bicolor*), it also being a common winter resident, or rather resident throughout the year in Northern Ohio. About 6.00 long, with a rather long and finely formed tail, it has that most elegant of bird ornaments—a crest. It makes up therefore in graceful form and sprightly carriage what it lacks in brilliancy of color—the upper parts being leaden blue, and the under parts grayish-white, with forehead black, and sides tinged with yellowish-brown. The most striking characteristic of this species is its vocal performances. Now it lisps, twitters and chatters, as if in intelligent conversation with its companions; again it squeaks like a mouse, or whines like a puppy, or frequently, and still more strikingly, it whistles like one calling a dog. More than once did I follow this latter performance for long distances through the woods, wondering much what sort of bird or beast its author might be. On the whole, there is much compass and variety, and not a little of a certain grade of music, in these numerous notes and rather loud melodies, and they are all suggestive of a sly quaintness or a vigorous energy.

Scarcely less interesting than its voice is its manner of

moving and feeding. Its concave wings and tail, after the manner of the Titmice, are suitable to its short, flitting, jerky manner of flight. Its manner of perching is proud and sprightly, with crest erect. According to universal testimony, as also in conformity with the habits of Titmice and Nuthatches in general, the nest of the Tufted Titmouse is in some hole in a tree—either a natural cavity suitable for the purpose, or the vacated nest of the Downy Woodpecker, or sometimes the bird will dig out a cavity for itself in a perfectly sound tree. In any case the cavity is well lined with various soft and warm materials, closely felted together. Thus the nest is at once a very comfortable and a very safe one. The eggs, some 6 or 8, about $.72 \times .57$, are clear white, specked and spotted with red at the large end. In the case of the eggs, as in that of the nests, there is a marked similarity in the whole group of Titmice and Nuthatches.

Common in the Southern, and even numerous in the Middle States, this species seems to find its northern limit in the Connecticut Valley in the east, about the south shore of Lake Erie and in Nebraska westward, and it would seem that it does not extend farther than Kansas in the west. In this western limitation, it is unlike the Blue-gray Gnatcatcher, to which it is so similar in the northern boundaries of its habitat. The Tufted Titmouse is resident throughout its range, thus showing how readily the same species may adapt itself to different latitudes; and as it is a very hardy bird, spending the coldest winters in its northern limits without any apparent inconvenience, there would seem to be no cause in itself why it might not thrive still further north.

TOWHEE BUNTING.

An abundant species, associated with my early studies, both in Western Pennsylvania and Northern Ohio, is the

Chewink or Towhee Bunting (*Pipilo erythrophthalmus*). About 8.50 long, and 11.00 in extent, the male is black above, the color extending in rounded outline over the breast; the sides are chestnut; the belly white; the vent pale reddish; there is a white spot at the base of the primaries, and an oblique white mark about in their middle; there is also some white on the tertiaries; the long tail has the three outer feathers finely marked with white. In maturity the iris is bright red. The female is brown where the male is black. Thickets, bushy pastures and barren tracts on the higher grounds are the favorite resorts of this species. It comes early, reaching the Middle States in April. The bottom poles of an old rail fence, among the briars by the woods, is very likely to be its thoroughfare; and at all times it keeps for the most part on or near the ground. Sit down quietly in the thicket, and you will hear its sharp rustle, as it scratches among the dry leaves; this hen-like scratching, probably in search of food, being one of its marked characteristics of habit. As it flits from bush to bush, never flying far nor high, you can hear the *whir-r-r-r*, of its short, rounded, concave wings, and as it opens its long, fan-like tail, with a jerking motion, the white markings contrast strongly with the jet-black figure. It hops, and sidles, and dodges about, in and out through the brush-pile, the brambles and the thicket, with a nervous, sparrow-like movement, its tail being often thrown up, after the manner of the Chat or Wren. Frequently it calls out, *chewink*, or *towhee*, with a sharp and somewhat prolonged aspirate on the second syllable, thus rendering either of those words, which have become its common names, very distinctly; but in order to get the exact effect, the words must be pronounced just so,—with just such an emphasis and intonation. Before hearing the note, neither of the above names

would be so pronounced as to give any idea of the sound which they may so precisely imitate when properly enunciated. Every now and then the male will mount a conspicuous bush, tree, or stub, preferably a dry tree-top, and sing for some time his monotonous ditty,—*who-he-tit-it-it-it-it-it-it*, which, though by no means strikingly musical, is still a pleasing sound amid the voices of the early spring.

Classed with the Sparrows in the *Fringillidæ* family, and hence a thick-billed seed-eating bird, it is also fond of insects and their larvæ, and works diligently for them.

The nest, formed in May, is quite secretly placed on the ground,—at the root of a bush, under a log, under the edge of a brush-pile, or in a thick bunch of grass; the site being so well excavated as to sink the rim nearly or quite level with the surface. The structure is bulky, of dried leaves and shreds of bark, being lined with fine grasses. The 4-6 eggs, about $.92 \times .72$, and quite roundish, are greenish or grayish-white, finely specked and spotted all over with reddish-brown and lilac. This species summers from the Carolinas to Northern New England and corresponding latitudes, and winters from the Carolinas to about the middle of Florida.

Residing permanently throughout the winter habitat of the above species, is the White-eyed Towhee (*P. leucopsis*), differing from the former "in being smaller and in having less white on the tail. This never extends over more than three pairs of the tail feathers and does not occupy the entire width of the outer web, but has a narrow line of black next to the shaft. The white of the wings is also less extended. The chestnut is much paler, but the most noticeable difference in the living specimen is the white eye. The females may be distinguished at once by the slaty tint of

the portions which are black in the males." The notes of these birds are said to be quite different from those of the former species, sounding like *jo-ree*, the emphasis being decidedly on the last syllable, the note giving the popular name Joree to the species.

THE FOX-COLORED SPARROW.

During the month of April, in my first year of ornithological study in the locality now under review, I made my first acquaintance with the Fox-colored Sparrow (*Passerella iliaca*). I did not then, nor at any time since in my several localities of observation, find it in any considerable numbers. Occasionally during March or early April, a small flock, or more commonly a single individual, may appear in a stealthy migration. Like the Chewink, it follows the bramble-grown fences along the edges of woods and thickets, dodges in and out in the most coy and wary manner, scratches among the leaves, and on some slight disturbance, hops up on an eminence and surveys the surroundings with a quiet caution. During such times it has a soft *tsip, tsip*, as a sort of conversational note; this, in case of alarm, may become a sharp *chuck, chuck*.

Having passed the latitude of 47°, it spends its summer in a sparrow-like manner, and returns during October and November to spend the winter anywhere between New Jersey and Florida, becoming rare in the latter State, and not reported beyond. Audubon's account of its breeding habits in Labrador, and Maynard's history of the same in the Magdalen Islands, are in complete harmony. The nest is placed on the ground, under the drooping limbs of the thick evergreens. It is large and bulky, composed of dry grass and moss, and is lined with fine grass and feathers. Eggs, oval in form, 4-5, pale-green, specked, spotted, and

blotched with reddish-brown and lilac. Sometimes the markings are quite heavy. Size, .85 X .62-.86 X .65.

It will thus appear that this largest of our Sparrows is a most hardy species; scarcely more than the herald of winter, as it returns from its boreal summer resorts, passing the inclement months barely beyond the zone of continued ice and snow, and seeking its northern climes again with the first glow of early spring. It is one of the few song-birds, for which we may look, along with the passage of the Wild Geese and Ducks. It is pre-eminently a song-bird. Audubon bears the most unqualified testimony to the power and charm of its melodies on the bleak coasts of Labrador; and Maynard is no less enthusiastic over "the magnificent song of the male filling the clear, still air with melody" as he listened to it in the Magdalen Islands. He says: "These fine strains consist at first of three clear, rather rapid notes, given with increasing emphasis, then a short pause ensues, and the remainder of the lay is poured forth more deliberately, terminating with a well rounded note, giving a finish to a song which, for sweetness and clearness of tone, is seldom surpassed even by our best performers." The loitering migrants, in the more genial days of April, give a fine prelude to the summer song. How these birds will cheer the Indian summer, in common with many other birds, with the subdued echoes of their earlier songs, has been noted by all; even in January, in the south, the little flocks, disporting in secluded sunny nooks, lisp their subdued melodies.

Some 7.10 long, and 11.25 in extent, the crown is slaty, streaked with rufous; upper parts generally, including wings and tail, rufous, brightest on the rump; ear-coverts, and more or less variable marks on the throat, rufous; triangular spots on the upper part of the breast, light red, the

darker triangular spots lower down, and the streaks on the sides being almost dark brown; wing-coverts, slightly whitened; upper mandible brown; lower yellow.

THE BLUE-GRAY GNAT-CATCHER.

Occasionally, in Northern Ohio, the nervous flitting of the Blue-gray Gnat-catcher (*Poliptila caerulea*) would attract me. This is about the northern boundary of its habitat, but it extends westward to the Pacific, and is strictly migratory. Only 4.50 long, and much of this lineal dimension consisting of the tail, it is but 6.00 in extent. The color is bluish-gray above and bluish-white below; head bluest, with black front and eye-brows in the male; wings brownish-black, with secondaries near the body edged with white; the tail, which is longer than the body and a little rounded, black; the exterior feathers white nearly to the base, and the next two tipped with white; the very slender bill, overhanging and notched at the tip, broad and bristled at base, and so resembling that of the Flycatcher; legs long, slender and black. Warbler, Titmouse and Flycatcher in movement, it is in the main a Warbler in structure; its diminutive body, however, and long rounded tail giving it a rather Tom-tit appearance; its plain drab-like colors also remind one of the Titmice. Its common note, *tsee, tsee, tsee*, is much like that of the Kinglet, but its soft, sweet warble is peculiar to itself. It is one of the subdued and tender vocalists of our woodlands.

The most striking feature of this little favorite is its elegantly artistic nest. Placed on a limb, or in the top of a tree, anywhere from ten to fifty feet from the ground, it is closely felted together of the softest materials of the forest—bud-scales, dried blossoms, and the delicate cottony substance which envelops the unfolding fronds of ferns, with

flexible skeletons of leaves, as an external framework of the wall of felt, and a few slender, wiry circles of horse-hair, perhaps, to make the soft interior symmetrical. Often, perhaps generally, the nest is so placed that when it is removed from its limb or crotch, the lower part of the inverted conical form is truncate, or nearly bottomless, excepting the soft lining. The rim of the nest is generally contracted or "purse-like," rendering the eggs secure in heavy winds. But the most marked feature of this structure is its ornamentation. The whole exterior is closely covered with small, brightly colored lichens—commonly of a greenish-gray. Thus the nest of this species is more beautiful than that of the Wood Pewee, and fully equal to that of the Hummingbird. Like these, it is in such close conformity to the lichen-covered limb on which it is placed as to seem a mere natural excrescence. Very fine grasses and vegetable downs constitute the body of the nest. The 4-6 eggs, some $.58 \times .44$, are roundish, and bluish-white, thickly and prettily specked with dark-brown and lilac all over.

THE YELLOW-BREASTED CHAT.

In the locality now under consideration, I first made the acquaintance of that eccentric bird, the Yellow-breasted Chat (*Icteria virens*). Some 7.00 long and 9.00 in extent, and somewhat resembling the Tanagers in form, it has the whole upper parts of a rich, deep olive-green; tips of the wings and inner vanes of the wing and tail-feathers, dusky; throat and breast, brilliant yellow, this color also washing the sides and lining the wings; belly and vent, white; front, slaty or dusky; lores, black; eye-brow, and nearly all the eye-lid, and spot at the gape, white. The sexes are scarcely distinguishable.

This beautiful and interesting species resorts to the past-

ures overgrown with brambles and bushes, and to the thickets. Here, with every facility for concealment, it delights to tantalize the most patient observer with its weird, ventriloquial, and almost endlessly varied, vocal performances. There are soft, subdued notes, half whisper, half whistle; then abrupt, explosive sounds, reminding one of the rattling loquacity of the Catbird or the Thrasher; these again are succeeded by deep, guttural *chucks*, as of certain Thrushes or Blackbirds; or there may be the most sprightly twittering, or a cawing and mewing—and all these so hurried and closely connected, and in such a variety of tones and modulations, as almost to bewilder and astound the listener. Meanwhile the bird keeps for the most part wholly out of sight, and in its concealment changes places so rapidly as to keep the listener on the most excited alert. He knows not where to expect the next burst of merriment, and when it breaks upon him he is equally at a loss where to locate it. During moonlight nights, and especially before the arrival of the females, this strange vocal exercise may be heard at almost any time between the twilights.

If you should approach its haunts in the nesting period, the bird may mount almost perpendicularly into the air; and with dangling feet and legs, and an abundance of excited noise, perform the most ludicrous gesticulations. Occasionally it will seem to abandon its coyness, and mounting to the top of some bare stump, in open sight, will give its recitative as fearlessly as a Chewink.

The nest, but a few feet from the ground, and ensconced away in the brambles and thickets, is rather bulkily built of dried leaves and strips of fibrous bark, and lined with fine rootlets and grasses. The 3-4 eggs, 1.00 × .80, are roundish, of a delicate flesh-color, spotted and specked with light brown or red, mostly at the large end. I once found the

Cowbird's egg, with a large hole in the side of it, lying on the ground beneath this nest. Probably the spirited Chat, in indignation over this imposition of an interloping parasite, had stuck its bill into the egg and ousted it.

The Yellow-breasted Chat, subsisting on insects and berries, reaches the middle districts in May, extending to New Jersey and the lower Hudson, Northern Ohio and corresponding localities westward, and returning to the south in August. On the High Plains, west, it is replaced by the Long-tailed Chat.

THE BLACK-THROATED BUNTING.

To the student of nature, the identification of even the most established facts is ever a fresh surprise. No matter how fully Wilson, Audubon, and the more recent ornithologists may have reported our birds, my acquaintance with each species has been almost as delightful a novelty as if I had been the first to discover and describe it. Of all the Sparrows which find their habitat in Northern Ohio, the last one to respond to my search was the Black-throated Bunting (*Euspiza americana*). I had long been on the alert for it, when one evening at sunset, as I was riding by a rich clover field on low clayey ground, I heard a new song in a tree by the road. *Chic-chic-chèlac-chick-chick-chick*, and *chick-ticketshe-chick-chick-chick*, in loud, explosive tones, recalls that song still vividly to my ears. "A Black-throated Bunting, I'll bet," said I to my companion, who carried the gun; "out, and let's have it." While he climbed out of the buggy and made ready to shoot, I noted the gesticulations of the bird as it sang most enthusiastically on a topmost spray and in the blaze of the evening light. With head uplifted till he stood quite perpendicular, and with drooping wings and tail, he fairly shook himself in the ardor of his utterance.

The report of the gun interrupted the song; and in a few moments the fallen bird, warm, and quivering with the last throes of life, was in my hand. "How cruel!" many would exclaim. "Yes," from one point of view; but most emphatically, "no," from another. True, every life which God has ordered is precious, and "not a Sparrow falleth to the ground without Him;" but is not the bird or beast of prey, by the law of its nature, under necessity of subsisting on innocent lives? And has not my thirst for knowledge greater claim than the claw of a Hawk? Besides, as Dr. Brehm has well said, to die in the midst of one's song is a death which even a poet might crave.

But to my bird. He is a beauty. With a peculiarly thick, but not unsightly, bill, he is rather long and slender for a Sparrow. About 6.50 long; forehead, greenish-olive; nape and neck, bluish-ash; eye-brows and moustache, yellow, continuing for some distance in white lines; chin, white; throat, black; breast, yellow; upper parts after the manner of the Sparrows, with a bright patch of chestnut-red on the shoulder; under parts, dull-white. This is the coloring of the male. The female lacks the black throat, the bright red patch on the shoulder, and has a mere tinge of the yellow parts; she has, moreover, a noticeably narrow, dark streak of about half an inch at the lower corners of the mandible, and narrow broken streaks of brown on the breast.

If I am not mistaken, the female has a song—one different from that of the male, though I cannot now describe it. One afternoon, as a friend and I were ransacking a field occupied by these birds, in search of their nests, we noticed a female, singing in a bush. My comrade was a good marksman, and took deliberate aim, and, as we thought, the bird dropped. After searching the spot thoroughly, however,

we found no bird. Presently we heard the same song in a bush near by, and having a good view of the bird, fired as before, again seeing it fall, as we thought, but once more failing to find it. The same illusion was repeated, at another point, the third time, and only after the fourth shot did we take the bird. This was something I never could explain.

Evidently Audubon was mistaken as to the nest and eggs of this species. The nest is a loose and bulky structure, some 3 inches deep and 5 in diameter externally; internal diameter 2.50 and depth 2.00; composed of grasses, weed-stalks, and such other coarse vegetable material as the locality may afford, and lined with fine grasses, finished generally with horse-hair. It is sometimes placed in a tussock of grass, but generally a few feet from the ground in a bush or hedge, or it may even be five feet from the ground in a small tree. The 4-5 eggs, some $.75 \times .60$ -. $85 \times .62$, and so about the size of the Bluebird's eggs, are generally so nearly like them in color as to be indistinguishable. Generally, however, they are a shade darker, and occasionally are specked with dark brown or blackish.

This species seems inclined to a local habitat, choosing level fields of rich meadow, with heavy or clayey soil. It is said to be rare in sandy regions. On the whole, it is rather southern in its range. Wintering outside of our boundaries, and entering the Middle States early in May, or certainly by the middle, it reaches the Connecticut Valley, Northern Ohio—I have never seen it in the northern counties of Western New York—and corresponding latitudes as far west as Nebraska and Colorado. It breeds throughout its range, and is much more abundant in the south and southwest than at the north, which latter part it leaves certainly by August. The food of this species is that of its family in general—seeds and insects.

THE GOLDEN EAGLE.

Among the earliest reminiscences of my ornithological studies, are the screams and screeches of a very fine specimen of the Golden Eagle (*Aquila chrysaetus*), kept in a large cage out of doors by a young scientific amateur in my neighborhood. It had been taken from the nest when quite young, I think, and reared in confinement. It was a grand pet, and, in its solitary gambols and sports about the cage, was a very interesting study.

The average length of the female of this species is given as 57.45, and the stretch as 85.00. Average length of male, 32.50; stretch, 83.00. General color, dark-brown, tinged with purplish; wings, tail and under parts, darker; head, neck, shoulders, tibia and tarsus, lighter, and tipped and edged with yellowish or golden-brown, thus giving some propriety at least to the common name. The base of the tail is white. The young are similar, but lighter in all respects, and, with about two-thirds of the tail at base, white. In the intermediate stages the tail may be white and brown mottled. The young, with the white tail deeply banded with dark brown, is the Ring-tailed Eagle of the earliest ornithologists. This species may always be distinguished by its *tarsus feathered to the toes*.

Grand as our Common or White-headed Eagle is conceded to be, he is but a commonplace and vulgar bird compared with the present species. Indeed, the Golden Eagle is the noblest bird of our continent. Disdaining carrion, except in extreme hunger, and all ordinary pilfering and predatory habits, he subsists, it would seem, on the noblest game, such as hares, grouse, young fawns and wild turkeys. Nor does he condescend to chase his prey, and capture it only after a hot pursuit, after the manner of Hawks and Falcons, but, detecting it afar with his keen eye,

swoops down upon it from some obscure height, and takes it by surprise. Then bearing it away to an elevated point, in a tree or on a ledge of a high rock, he plucks it clean, and eats at leisure. The loftiest mountains are his home, and on the shelvings of their most rugged precipices he locates his eyrie. Occasionally he may make a detour into the settled parts of the country, soaring high, and in slow, wide and most majestic circles; or, if he pass from one mountain height to some other in the distance, it is by the highest possible pathway in the sky. If he be in certain stages of plumage, with good eyes, and the light favorable, one may distinguish him, as a great rarity, by the dark band on his white tail. But generally, if one would study him, one must go to the uninhabited and almost uninhabitable parts of the earth, far above the ordinary planes of animated nature, and there contemplate him in the sublimest solitude. As he climbs to the very clouds, and penetrates "behind the veil of the storm," even the mountains are low down in respect to him, and he seems to know and care but little about the world. He who shoots a Golden Eagle secures a rare trophy, and may be assured that he will not repeat his success very often in a life-time. Though seldom seen, they are not considered as rare on the continent; and it may be doubted, indeed, whether there are any fewer of them "to-day in Eastern North America than there were when the Pilgrims landed at Plymouth." In fact, such is their elevation above the ordinary range of human life, so nearly inaccessible are their breeding places, and such is their wariness and sagacity, that it is difficult to conceive of a time when their numbers may be seriously impaired, or their habits or habitat essentially modified. The nest of this species is on the most inaccessible points of huge mountain walls; it is bulky, and rudely built of sticks,

and lined with weeds, or any of the softer materials available. The eggs, 1-3, about 2.90×2.25 , elliptical or spherical, are dull or creamy-white, generally spotted and blotched with brown, sometimes unspotted.

Concerning the manner in which the Golden Eagle teaches its young to fly, Sir Humphrey Davy says:—"I once saw a very interesting sight above the crags of Ben Nevis. Two parent Eagles were teaching their offspring, two young birds, the maneuvers of flight. They began by rising from the top of the mountain in the eye of the sun. It was about midday, and bright for the climate. They at first made small circles, and the young birds imitated them. They paused on their wings, waiting till they had made their flight, and then took a second and larger gyration, always rising towards the sun, and enlarging their circle of flight, so as to make a gradually ascending spiral. The young ones still and slowly followed, apparently flying better as they mounted; and they continued this sublime exercise, always rising till they became mere points in the air, and the young ones were lost, and afterwards their parents, to our aching sight." This is written concerning the European Golden Eagle, which is very similar to ours.

Dr. Rush, in his lectures on "The Effects of Fear on Man," says:—"During the revolutionary war, a company of soldiers were stationed near the highlands of the Hudson River. A Golden Eagle had placed her nest in the cleft of the rocks half way between the summit and the river. A soldier was let down by his companions, suspended by a rope fastened around his body. When he reached the nest, he suddenly found himself attacked by the Eagle. In self-defense he drew the only weapon about him, his knife, and made repeated passes at the bird, when accidentally he cut the rope almost off. It began unraveling; those above

hastily drew him up, and relieved him from his perilous situation at the moment when he expected to be precipitated to the bottom. The doctor stated that so powerful was the effect of the fear the soldier had experienced whilst in danger, that ere three days had elapsed his hair had become quite gray." (Audubon.)

THE TURKEY BUZZARD.

Fresh as of yesterday, among the early reminiscences of bird-life in Northern Ohio is the magnificent flight of the Turkey Buzzard (*Cathartes aura*). How smoothly and noiselessly have I seen its great figure glide over the fields and through the open woods, avoiding every obstacle, as it curved from side to side and rose and fell with the utmost ease and gracefulness. Most impressive of all, however, were its grand circles, with almost motionless wings, as it climbed to the most exalted regions of flight. Sometimes I could see as many as a dozen, on some clear sunny morning in June, intersecting their wide and slowly described circles, at so great a height, that but for one's knowledge of the size of the birds, they might have been mistaken for some small species of the feathered tribes. I know of few things more tranquilizing and suggestive of sublime thoughts than such a sight as this. But from this grand point of elevation there is but a step to the most degraded and filthy associations. I am reminded, after all, that these are nothing but "dirty Buzzards;" and by that most potent law of the mind, the association of ideas, my nostrils are regaled with the vilest odors, and my eyes recall the most unsightly forms of carrion. I transfer these birds of lofty flight to the ground, and think of them as cramming their craws with putrid flesh, and moping around like drowsy gluttons till digestion has labored through the nauseous mass; or, on some dis-

turbance to the bird, till the surplus is vomited up, thus enabling it to fly. There is good evidence, however, that it does not resort to carrion, when its capacious stomach can be appeased with a sufficient quantity of better flavored flesh. Moreover, its filthy feeding, under the ravenous necessities of hunger, renders it invaluable, in the warmer zones of its habitat, as a scavenger.

Notwithstanding the interesting experiments of Audubon, there is good evidence of the olfactory capacity of this as of all the rest of the Vultures. The nerves of smell are well developed. It is probable, however, that in seeking their supplies of food at a distance, they are guided by the eye much more than by the sense of smell. There is much force in the words of Job: "There is a path which no fowl knoweth, and which the Vulture's eye hath not seen." "The Vulture," says Tristram, "can detect the path of a wounded deer from a height where it can itself be descried by no human eye. The process is probably this: The Griffon-vulture,* which first detects the quarry, descends from his elevation at once; another, sweeping the horizon at a still greater distance, observes his neighbor's movements, and follows his course; a third, still farther removed, follows the flight of the second; he is traced by another, and thus a perpetual succession is kept up, so long as a morsel of flesh remains over which to consort. Thus, on great battle-fields, and during sieges, as at that of Sebastopol, immense numbers of Vultures were congregated in a few hours, where the bird was comparatively scarce before. During the Crimean war, the whole race from the Caucasus and Asia Minor seemed to have collected to enjoy so unwonted an abundance. The Arabs of North Africa declare that at that time very few 'Nissi' (Vultures) were seen in their

*This an abundant species in Palestine.

accustomed haunts, and believe that they were all gathered, even from the Atlas, to feed on Russian horses." (*Natural History of the Bible*.) This eminent naturalist further adds concerning the Vultures: "Their enormous capacity for food, combined with the power of long abstinence, is a wonderful provision of creative wisdom for carrion feeders, whose supply is so uncertain, while the necessity for the immediate removal of offensive matter is so urgent." Our Turkey Buzzard extends its northern habitat to the south of Lake Erie and corresponding latitudes. It is a rather frequent straggler in Southern New England, and Professor Charles Linden has recently seen it near Buffalo, N. Y. The Southern Middle and the Southern States are the chosen habitat of this species. There it resides in great numbers.

As to the nidification of this species, Mr. Maynard says: "Nests, placed on the tops of stumps, on logs, on ruined buildings, in hollow trees, or on the ground; but little or no material is used. Eggs, one or two in number, varying from elliptical to oval in form, dirty white or creamy in color, spotted and blotched irregularly, but sometimes more thickly on the large end, with reddish-brown and umber. Dimensions, from 1.80×2.65 to 1.90×2.75 ."

Female, 27.25 long, and 75.00 in extent; male, 26.75 long, and 67.00 in extent; the sexes are similar, being dark-brown throughout, with a bluish gloss or iridescence, the feathers of the wings being edged with lighter; the head is unfeathered, after the manner of the Vultures, the red skin being corrugated and beset with a few bristly feathers; feet, flesh-colored; bill, white. In size and form, and somewhat in color, this carrion-eater bears no small resemblance to our Turkey. The nestlings make their first appearance in a dirty white down.

The Black Buzzard of the south (*Cathartes atratus*), some 26 inches long and 58 in extent, is brownish-black, lighter on the wings. It has a slight nest on the ground, the eggs, 1 or 2, being creamy-white, heavily marked with brown.

KIRTLAND'S WARBLER.

I never met Kirtland's Warbler, but some of the most valuable of my first ornithological instructions were given privately and informally by Dr. Kirtland, so that it is very proper to note here his interesting discovery of this bird (*Dendroica kirtlandi*), shot near Cleveland, Ohio, in 1851. Since that time, five more of the same species have been taken in Ohio; two at Ann Arbor, Mich.; and one on the Bahama Islands, near which, at sea, the first specimen of the kind had been found, some ten years before Dr. Kirtland identified and described it.

This large Warbler, some 5.50 in length, and quite robust in form, is bluish-ash above, "narrowly streaked on crown, and more broadly on back, with black; forehead, lores and space beneath eye, black; eye-lids, two narrow bands across wings, and patch on inner webs of two outer tail-feathers, white; under parts, clear yellow, becoming nearly white on under tail-coverts, with spots in band across breast, and streaks on sides, black. * * * Female similar, but much paler beneath, slightly over-washed above with reddish, and the dark markings are much more restricted." The color and markings of this species are every way similar to those of the Canada Warbler, but the form is not that of a Flycatching Warbler, but of a *Dendroica*.

THE HERONS.

Strongly characterized among birds are the Herons and their relatives. They are at once the giants and the fisher-

men among the Waders. Even the Godwits, Willets and Curlews are but pigmies as compared with their larger representatives; and no species of Plover, Snipe or Sandpiper has a bill at all adapted to seizing fish. The long, slender-pointed bill of the Heron is a most effective spear; his stilt-like legs are long enough to bear him out to sufficient depths to reach his prey; and the length of his many jointed, sinuous neck is equal to that of his legs. His eye is keen, his wings are immense, and his body, as compared with the size of his members, is astonishingly small. The toes, the outer one of which is considerably palmated, are long enough to support so light a body on the mire and the soft ooze. The structure of the foot is strictly that of the perching bird, and so accustomed are these birds to standing on one foot, with the other drawn up into the feathers, that the one foot is often much larger than the other. The beak, cleft as far as the eyes, opens a gullet sufficiently large to admit a fair-sized fish. The patch of naked skin, including the eyes, extends to the base of the bill. The plumage is of a loose, crape-like structure; and there are long, pointed and pendent feathers about the lower neck and breast, also, in most cases, on the back. Moreover, this class of birds has two curious items of structure as yet wholly unexplained—the pectinated or comb-shaped inside edge of the middle claw, and the thickened, yellow, hair-like appendages, or powder-down, on the breast. Some have affirmed that the latter is phosphorescent, and so affords a luminous attraction for fishes at night.

These birds frequent shallow streams, flats, swamps and marshes, generally building platform nests, of sticks and other coarse materials, for the most part in trees, and generally breeding in communities; the flat nests being necessary to accommodate the long legs of the parent bird while

sitting, as also those of the young, which remain in the nest until they are well grown. The three to five eggs, small for the size of the bird, are oval, and of a clear, light bluish or greenish tinge. The callow young are reared in the nest with the most lavish feeding. Greedy, gluttonous and sluggish, but exceedingly shy and wary, most species of this group are by no means easy of approach. They are, for the most part, birds of the warmer, or at least of the milder, climates.

Having treated of the Great Blue Heron, and of the Bitterns elsewhere, I may mention the Night Heron (*Nycticorax grisea* var. *nævia*) as a noticeable bird in some parts of my locality. Visiting St. Clair Flats in May and June, as my boat glided along the various channels intersecting the partially submerged tracts of tall sedges, which appeared like immense fields of ripened grain, I would every now and then put up this fine Heron, as if startled from its feeding grounds. It would generally start before I came within gun-shot, and rising high, would fly far away. On fine sunny mornings there were sometimes dozens together, high in air over the beautiful forests of Dickinson's Island, cutting large and stately circles, wheeling round and round, with scarcely a flap of the wings, after the manner of Buzzards. I could get no clue to their nesting place, but they must have been breeding near by. On the ground, this species has none of the stately movements, or stock-still standing in awaiting its prey, so peculiar to the Herons proper. In the language of Audubon, "it walks in a stooping posture, the neck much retracted, until it sees its prey, when, with a sudden movement, it stretches it out and secures its food." It is a *hunter* after tadpoles, frogs, fishes, small crustaceans and various water-insects. Like others of its kind, it delights to traverse pools and marshes in the

morning and evening twilight, but it is also very frequently abroad in full daylight. Its common, hoarse note—"qua," has given it the name "Qua-bird," to the northward.

Observers in the Southern States attest to the abundant breeding of this species in large communities, their flat nests, built of sticks, being placed in trees and bushes, anywhere from near the ground to the tops of tall trees. In New England, on the Hudson as far north as Saratoga, and in corresponding latitudes, it breeds, in large communities, in the same style as in the south; and it is now well known that it tarries late, and may even winter in the middle districts.

The eggs of this species, about four on an average, some 2.12×1.50 , are oval or oblong-ovate, and of a clear, light bluish-green color. The flattish nest, built of sticks, etc., after the usual manner of Herons, is generally very filthy after the young are out.

Some 24.75 long and 44.60 in extent, the neck and legs are not so long as those of the Herons proper; the bill is thick at the base, compressed, tapering and very pointed, and has the upper outline noticeably curved—this form of the bill being peculiar to the Night Herons. The color of the soft, blended plumage is especially chaste and elegant. The tufty crown and the smoothly-laid back are dark glossy-green; forehead and anterior of the neck, white; breast and abdomen, and the lower elongated feathers, creamy-white; posterior of the neck, a beautiful gray drab, tinged with lilac; wings and tail, gray drab; bill, black; legs, and space around the eyes, yellow; the large eyes, bright red; the several long, slender and elegant plumes springing from the crown in the breeding season, pure white. The young are striped and mottled with various shades of brown and white, and require several years to reach the colors of maturity.

Closely related to the above is the Yellow-crowned Night Heron (*Nycticorax violacea*). Some 22 inches long and about 41 in extent, it is a little smaller than the Common Night Heron, and, excepting the plumage, its structure is very similar. The back and head are furnished with long and elegant lanceolate plumes. The general color is a pale, ashy-blue, the feathers of the back and wings being dusky, edged with pale or light-ash; upper part of the neck and the head, blue-black; the white crown, including the long upper plumes of the crest, is tinged with yellow in the breeding season; there is a white patch on the cheek; eyes, yellow; bill, black; feet and legs, black and yellow. The young are greenish-brown above, with light spots and streaks, and grayish-white, streaked with brown, below.

This southern species, regularly reaching the Carolinas, and wintering in Southern Florida, like others of its kind, breeds in community, often placing its nest in very tall trees.

Grandest of all the Herons, and prince among Waders, is the Great White Heron (*Ardea occidentalis*) of Florida Keys. Some 47.50 long and 72.50 in extent, it is noticeably larger than even the Great Blue Heron. Of the purest white throughout, the feathers of the crown, neck and breast are long and loosely lanceolate; bill, iris and legs, yellow; feet, dusky-green; exceedingly shy and wary, and remote from the habitations of man; slow and stately in all its movements, it impresses one with an idea of purity, elegance and dignity. The nest is similar to that of the Great Blue Heron, the light bluish-green eggs being some 2.42×1.82 .

THE GREAT WHITE EGRET.

Among the most conspicuous and beautiful of the birds of this class are the Egrets, of which we have several representatives in our more southern latitudes. Except in the

structure of certain ornamental plumes, to which the name Egret, from the French "aigrette," refers, they have no differentiation in form, but in all respects are Herons. The Great White Egret (*Ardea egretta*), sometimes called White Heron, is one of our finest birds of this kind. Some 38.25 long and 55.00 in extent, it is a large and stately bird, of purest white, and during the breeding season has a most elegant train of long filamentous plumes, flowing from the back over the wings and tail. The iris, bill and lores are bright yellow; and the legs are black.

One of the most characteristic traits of this bird, as also of its class, is the gathering at some remote roosting place at night. The student of their habits may easily imagine a like scene to that so finely exhibited in the younger Brehm's picture of the "Settling of the Storks at Night." The inimitably bright and gorgeous hues of the sunset have not only glorified the clouds from horizon to zenith, but have tinged every cubic inch of atmosphere, and reflected themselves in every object of the landscape. In some secluded thicket or swampy woodland, silently reflected in the glassy streams and ponds around, flocks of these large snowy birds, with slow and steady beat of wings and in graceful floating trains, appear. The more distant flocks have their necks drawn up upon their breasts, and their long legs extended out behind; those nearer are beginning to hold their broad wings rigidly extended, as they prepare to lower themselves; those nearer still, with outspread wings, and long neck and legs more or less stretched out, are settling toward the woods and waters, while others still are already adjusting themselves on the lower and higher perches. Every movement is most elegant and graceful, and indicates the most complete sense of seclusion, safety and sweet contentment; while the brilliant lights,

which fill the air, are throwing soft but lambent tints of rose, amber and gold on the snowy forms. They emit no sound, except the occasional subdued croak of rather unmusical voices, but the sight is most beautiful and suggestive.

The nightly repose over, the morning finds them astir. "Their rough notes are uttered more loudly than in the evening, and after a very short lapse of time they spread their snowy pinions, and move in different directions, to search for fiddlers, fish, insects of all sorts, small quadrupeds or birds, snails and reptiles, all of which form the food of this species." Each flock having reached its mud-flat or sand-bar, the day is spent between food and repose. If it be the approach of the breeding season, their "tournament or dress-ball" occurs. The males, with swollen throats and gurgling notes, strut about the females, raising their snowy plumes in the most elegant and graceful manner. Jealous conflicts may occur, the scene of wooing lasting from the middle of the forenoon till the middle of the afternoon, or from after the morning meal till that of the evening. Except in the breeding season, these birds are very shy and unapproachable; then, breeding in community, as is the manner of their order, about the islands and the coast, indeed, but more commonly about the lakes a few miles in the interior, the broad, flat nest, placed on a bush or tree over the water, is loosely made of sticks, and repaired from year to year contains 2-4 elliptical to oval-formed, pale bluish-green eggs, some 2.28×1.50 . Wintering from the Carolinas southward, but never wandering far from the sea-coast, this species migrates regularly as far north as New Jersey, and has been found as a straggler even in New Brunswick.

How can we conceive of anything more chaste and elegant than the Little White Egret, or Snowy Heron (*Ardea*

candidissima), which has a rather more southerly habitat than the former, and is some 23.75 long and 38.00 in extent. The loose filamentous plumes of the head, back and breast are gracefully recurved; its entire plumage of dazzling whiteness is set off by the orange-yellow of the iris, lores and legs, and its bill tipped with black. In form, it seems almost ethereal; in color, pure as the glittering snow; in carriage and flight, graceful as the floating down or the fleecy cloud. Breeding in quite large communities, placing its rather small and slightly hollowed nest, which is loosely built of sticks, on trees and bushes which stand in and near the water, this species lays 2-4 eggs, 1.82×1.22 , elliptical or oval, and of a pale greenish-blue.

Next in the commonly received order of classification is the Louisiana Heron or Egret (*Ardea ludoviciana*). Some 25.50 long and 35.39 in extent, the form is particularly slender and graceful, and the plumes on the back and breast are long and filamentous; it is ashy-blue above, the neck tinged with deep chestnut; the plumes on the back of the head, and the line down the neck, are reddish and white; the throat is creamy, and the under parts are white. The nidification is after the manner of its tribe, the eggs being about 1.78×1.35

THE REDDISH EGRET.

A most interesting bird of this class is the Reddish Egret (*Ardea rufa*), the young of which, according to the preponderance of authority, is white, and requires several years to reach its mature color, while some individuals remain white always. Some 30 inches in length, and 40 or more in extent, the mature bird is grayish-blue, lighter beneath; the head and neck being reddish-brown, tinged with lilac or violet; iris, white; base of bill and naked space, light purple;

the tip of bill, black; legs blue, with black scales. In the immature birds, the bill is similar to the above, and the legs are greenish. The quite young lack the plumes, which in the mature bird are most elegant. Even in the more advanced stages of the white plumage, the ornamental plumes are so fine that some pronounce the white bird the most elegant of all the Herons. The young was first called Peal's Egret, and is still so called by some who believe it to be a distinct species. The nests, built in community, after the manner of the Herons, are made of sticks, and placed on trees or bushes, and contain 2-4 bluish-green eggs, elliptical, 1.45×1.95 . Wintering in Florida, this species ranges in summer from the Carolinas to Key West.

Very common on the interior lakes and rivers of Florida, and in many parts of the Southern States, is the Little Blue Heron (*Ardea caerulea*). Rather small, some 22 inches long and 38 in extent, of a dark slaty-blue, with head and neck tinged with violet, it is especially quick and agile in movement, swift in flight, and very shy except on its breeding grounds.

The 2-4 eggs are elliptical, or oval, and dark bluish-green. The young are white, with tips of primaries and crown tinged with blue. Passing through every stage of blue mottling, it takes several years to reach the complete blue livery; and from white to blue, through all intermediate stages, they may be seen breeding together, a white one sometimes being mated with a mature one, as is also the case with the Reddish Egret.

THE GREEN HERON.

In the first fascinating charms of my ornithological studies I stumbled on the Green Heron (*Ardea virescens*). Throughout the Union, along inland streams and about ponds and marshes, it is the most common and familiar of

its kind. Outraged by a most vulgar and distasteful name, it is nevertheless an elegant bird. About 1.50 long and 24.00 in extent, the crested crown and upper parts, a glossy dark green, sometimes iridescent with bronze; the lanceolate feathers of the back, glaucous; wing feathers, edged with reddish or white; neck, chestnut-red; throat and stripe down the front of the neck, white, spotted and streaked with dusky; beneath, ashy-gray, streaked with white and tinged with reddish; iris and feet, yellow; naked space in front of the eye and bill, brown and yellow. The young are similar, lacking the plumes, the upper parts being more tinged with reddish, and the neck streaked.

Wandering through an orchard near a stream, early in June, I was startled by a spitting, rushing sound, in the top of an apple-tree near by. Failing to see the cause of the noise, I climbed into the tree, and discovered what was then to me a very strange-looking nest. Flat, and loosely built of small, clean twigs, it contained five pale-green eggs, some 1.15×1.55 , and about fresh. Sitting down under a tree near by, I soon saw the bird return to the nest; and shooting it, found it to be the Green Heron. Never shall I forget how odd it looked, flying about the trees with outstretched neck, its long legs dangling out behind. Often since I have seen it gracefully stepping about shallow pools, and among the grass along the banks of streams and ponds, searching for small fishes, snails, tadpoles and leeches. Again I have seen it light on the tops of bushes in the swamps with all the ease and firmness of a regular perching bird; and have heard its low-toned *quak, quak*.

The summer habitat of this bird extends but little beyond the United States; and in the south, where it winters, it often breeds in community. Many spend the winter south of the Union, and return in large flocks in early spring, migrating, for the most part, by night.

CHAPTER XXIV.

GLEANINGS.

HAVING studied our birds in the order of the seasons, and grouped them about certain localities, there remain some which do not come readily into any of the previous chapters. They are but few, and most of them are mere outlying species of the field which I have chosen; and as I wish to make this book a complete manual, within the reach of every one, its necessary limits will restrict the account of those which follow to great brevity.

Taking them in the order of their classification, we come first to the famous Mockingbird (*Mimus polyglottus*) of the Southern States. Some 9.50 long, gray above, white below, with breast and sides tinged with gray; wings and tail, dark-brown, the former with bars and base of primaries, also the tips and edgings of the wing feathers generally, white; the latter with an outer feather on each side, and a mark on the two following, white. The male has more white in the primaries than the female. The marvelous capacity of this species for imitation is truly a wonder in bird-life. Giving the notes and songs of the Sparrow, the Goldfinch, the Blue Jay and the Robin, in the same breath, it imitates almost any sound within hearing, even voicing fairly the notes of a piano. Indeed, it will so render the songs of other birds as positively to excel them in musical power and sweetness, so that the performance of the birds themselves will sound

tame and spiritless in comparison. Moreover, the Mockingbird's own song, thrown in here and there in the medley of other songs, or sometimes given singly, would itself be enough to distinguish the singer. Its nest is in a bush or tree, and contains some 5 eggs, pale greenish-blue, spotted and blotched with different shades of brown and lilac. Size, $.97 \times .73$. It is resident in the Southern States in great abundance, as far north as Virginia, and occasionally straggles into New England.

Bewick's Wren (*Troglodytes bewicki*), some 5.50 long, is also a southern species, reaching as far north as Pennsylvania. Having the general color and appearance of the Common Wren, it is distinguishable by the ashy under parts and the white markings in the tail, its manner of nesting being similar to that of the former.

The Prothonotary Warbler (*Protonotaria citræa*) is a southern species, most common in the regions about the lower Mississippi, as Southern Illinois, and strays to New England. About 5.50 long, the color is bright, golden-yellow, paler underneath, olivaceous on the back; rump, wings and tail, bluish-ash. The nest is in holes in trees, and in analogous situations; the 4-6 eggs, $.68 \times .57$, are white, spotted with reddish and lilac.

The Worm-eating Warbler (*Helmitherus vermivorus*) is found in the southern and middle parts of Eastern North America, straying occasionally to New England. Though not rare in Central New York, it does not appear to be abundant anywhere. About 5.50 long, the general color buffy, with back olive, and belly whitish, it may be recognized by four black stripes on the head—two from the bill along the sides of the crown to the nape, one on each side of the head through the eye. Nest, on the ground. Eggs, some $.73 \times .56$, white, marked with reddish-brown.

Swainson's Warbler (*Helmitherus swainsoni*) belongs to the South Atlantic States, and is very rare. Some 6.00 long, bill, long, stout and pointed, tail, short and slightly rounded, it is brown above and buffy below, with a whitish eye-brow. It has no distinct markings on the head.

Bachman's Warbler (*Helminthophaga bachmani*), 4.50 long, yellowish-green above, ashy on crown; forehead and under parts, bright yellow; mark across the crown, throat and upper breast, black; two outer tail feathers marked with white. The one obtained near Charleston, South Carolina, and reported by Audubon, was the only one known, until the case of nidification, discovered by the late Dr. Wilson, of Georgia, some time between 1853 and 1865, and recently reported by H. B. Baily. (See the Nuttall Bulletin, Jan., 1883.)

The Yellow-throated Warbler (*Dendraeca dominica*), some 5.25 long and 8.25 in extent, is slaty-blue above; the crown and sides of the head, black, the latter marked with white; the throat and upper part of the breast, bright yellow. The bill is long and slightly curved, and the species has much the habits of the Creepers. It is a southern species, wintering in Florida and beyond, and migrating into Virginia.

The Yellow Red-poll Warbler (*Dendraeca palmarum*), about 5.56 long and 7.77 in extent, is yellowish-olive above, brownish on the wings and tail; the latter marked with white; crown, chestnut; the breast and sides marked with dark red. The female is a little less strongly colored and marked. Wintering in the Southern States and in the West Indies, it reaches New England already in April, breeding from Northern New England and Nova Scotia to Hudson's Bay. The nest is on the ground; the eggs, .67 X .54, being dull white, marked with pale brown.

The Pine Warbler (*Dendroica pinus*), some 5.50×8.85 , is olive-green above and yellow below; the wings and tail dusky, the former barred, and the latter marked with white. This is another early migrant, having about the same habitat as the former. The nest is well up in a tree, the bluish-white eggs, marked with brown, measuring about $.70 \times .49$.

The Connecticut Warbler (*Oporornis agilis*) is yellowish-green above and yellow beneath; crown, sides of the head, throat and upper breast, ashy. It is a rare species, breeding from Maine northward, and wintering beyond our limits.

The Kentucky Warbler (*Oporornis formosus*) is 5.35 long and 8.84 in extent; yellowish-green above, and bright yellow beneath; crown and markings on the sides of the head and neck, black. This is a rather southern species, most common about the Mississippi, and breeding regularly as far north as Southern Illinois and Indiana. The nest is near the ground, the white eggs, marked with light-brown, measuring $.71 \times .52$.

Bachman's Finch (*Peucaea aestivalis*)—some 5.75 long, resembling the Yellow-winged Sparrow above, but with the plain brownish-gray shades beneath, darker on the breast and sides, and with light-grayish spots on the outer feathers of the tail—is a species of the Southern States.

The beautiful Lark Finch (*Chondestes grammacus*)—about 6.75 long, something like the Fox Sparrow above and slightly shaded with grayish-brown beneath, the head finely marked with chestnut, black and white—is a western species, now found as far east as Michigan.

The Painted Finch, or Nonpareil (*Cyanospiza ciris*), of the South Atlantic or Gulf States, is only 5.50 long; has the head and neck rich blue; rump, eye-lids and under parts bright red; back and wing-coverts, yellowish-green; wings

and tail, purplish. The female is green above, and yellowish beneath. This brilliant anomaly among Sparrows is very shy, and is a sweet singer.

The Carolina Parroquet (*Conurus carolinensis*), 13 inches long, with green body, yellow head and red face, once abundant in the Southern States, is now becoming local and rare.

The Barn Owl (*Strix flammea* var. *americana*), recently taken on Navy Island, in Niagara River, is about 17 inches long, the face particularly round and expressive; the legs long, slender and hairy; general color, tawny, mottled or marbled with dark brown, ash and white. It is a southerly species.

That elegant little Hawk Owl (*Surnia ulula* var. *hudsonia*), 16 inches long, brown above, specked with white, finely cross-barred with brown and whitish below, and wings and tail with numerous white bars—is a northern species, occasionally found in Western New York in winter. With small head and rather diurnal in its habits, it bears quite a relation to the Hawks. (See portrait on frontispiece.)

The Everglade Kite (*Rostrhamus sociabilis*), of Florida, bears quite a resemblance to the Marsh Hawk. Its general color, however, is much darker—the male blackish—and a little smaller; its long, hooked bill is “*extremely slender* ;” the tail is emarginate; and the bare part of the tarsus is shorter than the middle toe. By these points it may be readily differentiated. The nest, of sticks, weeds, etc., and lined with grasses, is placed in bushes, and contains 2 eggs, 1.50 × 1.65, bluish-white, heavily marked with varying shades of brown.

The Mississippi Kite (*Ictinia mississippiensis*), found in the South Atlantic and Gulf States, is some 13.70 long and 35.00 in extent; color, dark bluish-ash, lighter on the head, neck and under parts, and becoming greenish-black on the

wings and tail; quills of the primaries and adjoining parts of the webs, rich chestnut; the sexes alike. The nest is in trees; the 2 or 3 eggs, some 1.51×1.31 , are roundish, greenish-white and "thickly spotted and blotched with deep chocolate-brown and black." (Maynard.)

The White-tailed or Black-shouldered Kite (*Elanus leucurus*), of the "South Atlantic and Gulf States, California and southward, chiefly coastwise," is white, with a gull-like curtain of ashy-gray over the back and wings, excepting the wing-coverts, which are black. Length, 15.50; extent, 39.50. The nest, in low trees, contains 4-6 eggs, roundish, white, heavily marked with several shades of brown. Not common in its easterly range.

The elegant Swallow-tailed Kite (*Nauclerus furcatus*) is an abundant summer resident in the Southern, and rarely reaches the Middle States. Some 22.00 long and 46.00 in extent, its graceful forked tail is more than a foot in length. The head, neck and under parts are white, with shafts of the feathers of the head, neck and breast, black; the upper parts, including the tail, black, glossed with green. Whether skimming the surface, gliding over the bushes and tree-tops, or circling high in air, the flight of this species is strikingly beautiful. Stooping to capture a snake, he will carry it high in air, and devour it at his leisure while on the wing. The nest, in high tree-tops, and neatly made of sticks, weeds and tillandsia, is lined with grasses, and contains 4-6 eggs, 1.85×1.49 , oval, greenish-white, heavily marked with brown of several shades.

The Jerfalcon (*Falco sacer*), 21-23 inches long, white, with dark markings like the Snowy Owl, or dusky, cross-banded with whitish, is an extremely arctic species of circumpolar distribution, rarely reaching New England in winter.

The famous Wild Turkey (*Meleagris gallopavo*), very well

represented by the largest, darkest and most brilliant specimens of our domesticated Turkey, was formerly of general distribution in Eastern North America, but is rapidly disappearing from the more cleared and cultivated parts. Our more common and lighter domesticated specimens are the descendants of the Mexican variety.

The Willow Ptarmigan (*Lagopus albus*), some 16 inches long, white, with a black tail, in winter, and dark in summer, is a bird of British America, occasionally reaching the northernmost parts of the United States. The Rock Ptarmigan (*L. rupestris*), similarly colored in winter and in summer, except the black line through the eye, is a little smaller, and much more boreal in habitat.

Wilson's Plover (*Ægialitis wilsonia*)—some 7.50 long, ashy-brown above; band on the crown and belt around the breast, black (grayish-brown in the female and young); under parts, and forehead, and eye-brows, white—is a southern species, reaching New Jersey in the north.

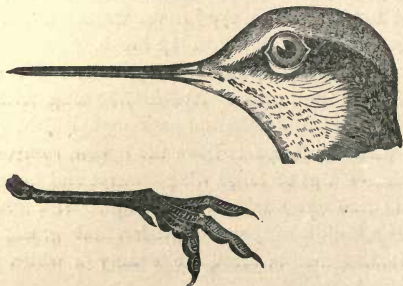
The Oyster Catcher (*Hamatopus palliatus*) has about the same habitat as the former. About 17.50 long, with a long wedge-shaped bill; the head and neck are blackish; the back grayish-brown; under parts from the breast, rump, most of the secondaries, tips of large wing-coverts and base of tail, white; bill and eye-lids, red or orange; legs, flesh-color. The nest is a hollow in the sand, with a little grass; the 2-4 eggs, 2.20×1.52 , oval in form, are creamy or white, heavily marked with brown.

The Avocet (*Recurvirostra americana*), 16.62 long, long-legged body, white, with dark red head and neck, and back and wings mostly black, is known by its long, slender, pointed, decidedly upturned bill, its hind toe and small webbed feet. This curiously formed species is numerous west of the Mississippi in summer, breeding abundantly in

the northwest; but it is rare to the eastward. The 3 or 4 eggs, in a slight depression in the ground, some 2.00×1.32 , and pointed, are olivaceous-drab, thickly but not very coarsely marked with dark brown.

The Stilt (*Himantopus nigricollis*), some 14.60 long, glossy black, forehead, sides of the head and neck, rump and under parts, white, is more or less common to the United States in summer, but is not often found north of the Carolinas on the eastern coast. The nidification is similar to that of the former; and the 3 or 4 eggs, some 1.65×1.20 , are very nearly the same in coloration.

The Phalaropes, three in number, and of small size, are a sort of membranous or lobe-footed Sandpiper. Wilson's Phalarope (*Phalaropus wilsoni*), some 9 inches long, light-gray above, wings brown, the dark stripe through the eye becoming purplish-chestnut on the sides of the neck, upper



THE HEAD OF WILSON'S AND THE FOOT OF THE NORTHERN PHALAROPE.

tail-coverts and under parts, white, is distributed in summer from Kansas to the Saskatchewan, but is simply a rare migrant in the east. It has been taken in Western New York in the fall. It has the membrane on the toe straight-edged. The northern Phalarope (*P. hyperboreas*) is about 7.50 long;

grayish-brown above, mixed with chestnut on the back ; ring around the neck and stripes down the sides of it, chestnut; tips of the wing-coverts and under parts, white, the sides tinged with grayish or reddish; feet, lobed. It breeds in Northern North America, migrating into the United States in winter. The Red Phalarope (*P. fulicarius*), 7.75 long, has the under parts purplish-chestnut of varying shades, white in young; the upper parts variegated with black and light red. Its feet are lobed, and the bill stout and flat. It winters in the south, spending the summer in the arctics.

The Stilt Sandpiper (*Micropalama himantopus*) is 8.50 long; legs long, and the bill sometimes bent upward ; blackish, marked with tawny and white, above; ear-patches, chestnut; line from the bill to the eye, dusky; eye-brows, reddish; upper tail-coverts, white, barred with dusky; under parts, reddish, marked with black and whitish. It winters in the West Indies, and passes through the United States, generally, to its breeding grounds in the far north.

Baird's Sandpiper (*Tringa bairdi*), about the color of the Least Sandpiper, but an inch or two longer, is rare in Eastern North America.

The White-rumped, or Bonaparte's Sandpiper (*Tringa bonapartei*), about the size of the former, and about the color of the Pectoral Sandpiper, except the black bill and feet and the white rump, belongs to Eastern North America, and is common on the Atlantic in the migrations.

The Red-backed Sandpiper (*Tringa alpina* var. *americana*), 8.50 long, with bill slightly bent down near the tip, is known by its red back, mottled with white and black, and its black patch on the belly, in summer; in winter, and in the young, the upper parts are ashy-gray, the under parts white. It is a common migrant on the coast and in the interior of Eastern North America.

The Red-breasted Sandpiper, Gray-back or Robin Snipe (*Tringa conutus*), some 10.50 long, has the usual markings of the Sandpipers above, but is known by its brownish-red breast, fading into white on the flanks. It is an abundant migrant on the Atlantic Coast.

The Buff-breasted Sandpiper (*Tryngites rufescens*), about 7.50 long, with a very short bill, is known by the delicate pale reddish of the sides of the head, neck and under parts, and by the fine cross-penciling of dusky or white on the under side of the wing. It is generally distributed, but not common in Eastern North America.

The Long-billed Curlew or Sickle-bill (*Numenius longirostris*), the total length of which is about 2 feet, and colored somewhat like the Marbled Godwit, may always be known by its long, downward-curved bill, 6 or 8 inches in length. It is common to Eastern North America, and breeds in the northwest.

The Hudsonian Curlew (*N. hudsonicus*), some 17 inches long, color similar but paler than the former, ranks next in size in this genus. It is chiefly a migrant in the United States.

The Esquimaux Curlew (*N. borealis*), several inches smaller than the former, similar in color, has the peculiar bill, short (less than 3 inches) for the genus. As indicated by its name, it is but a migrant.

The Ibises, somewhat resembling the Herons in form, are birds of the south. The Wood Ibis (*Tantalus loculator*) is about 4 feet long, the bill curved downward; the naked head is wrinkled and bluish, legs blue, bill pale-greenish, plumage white, except the tail and fore part of the wing, which are black. The elegant Glossy Ibis (*Ibis falcinellus*) is two feet long, "plumage rich, dark chestnut, changing to glossy, dark green, with purplish reflections on the head,

wings and elsewhere." The White Ibis (*Ibis alba*), about the size of the last, is pure white, the primaries tipped with glossy black. The Scarlet Ibis (*Ibis rubra*), rich scarlet, the outer primaries tipped with black, is merely accidental in the Southern States.

Closely related to the above group, and of the same size and habitat, is the Roseate Spoonbill (*Platalea ajaja*). "In full plumage, rosy-red, whitening on neck; lesser wing-coverts, tail-coverts and lower throat, crimson; tail, brownish-yellow; leg, pale carmine; bare head, yellowish-green, with a dark stripe; bill mostly grayish-blue." (Coues.)

The White or Whooping Crane (*Grus americanus*), about 50 inches long, resembling the Herons in form, with part of the head nearly bare and bill very stout, plumage white, except the fore part of the wings, which is black—is common in the extreme south in winter, and breeds in the northwest. The Brown or Sandhill Crane (*Grus canadensis*), a little smaller than the former, but of similar form and habitat, is gray, with fore part of the wings black.

The Courlan or Crying-bird (*Aramus scolopaceus*), some 26 inches long, brown, marked with white, and resembling the Rails, is found in Florida.

The Flamingo (*Phenicopterus ruber*), four feet long, with very long neck and legs, and a somewhat hook-shaped bill, scarlet, with fore part of the wings black, is scarcely more than a straggler into Florida.

The White-fronted Goose (*Anser albifrons*), about 27 inches long; back dark gray, the feathers edged with lighter or with brownish; under parts light-gray, blotched with black; bill pale lake; forehead, pure white—is for the most part a western species, but sparingly found to the eastward.

The Snow Goose (*A. hyperboreas*), some 30 inches long, a dull white, generally, washed with reddish about the head,

the young lead-color above, is extremely boreal, breeding about the straits of Hudson's Bay, and is more common in the west than in the east in its southern migrations.

The Blue Goose (*A. caerulescens*), nearly the size of the former, and about the same form, plumage ashy-blue, varied with brown, head, tail-coverts and under parts, white—should be regarded as a distinct species, and not merely the young of the former. This has been placed beyond a doubt by the late researches of Mr. Wm. Dutcher; and Mr. Fortiscue, of Hudson's Bay, says that the two species occupy distinct breeding habitats in the north.

The Brant Goose (*Branta bernicla*) is some 2 feet long, head and neck black to the breast, a patch of white streaks on the middle of the neck, upper tail-coverts, white, brownish-gray above, and lighter underneath, becoming white toward the under tail-coverts. It is an arctic species, visiting the Atlantic to the Southern States in winter. There is a darker variety called the Black Brant, rare on the Atlantic, but abundant on the Pacific.

The Booby Gannet (*Sula fiber*), a little smaller than the Common Gannet, brown, white from the neck down, bill and feet yellow, belongs to the South Atlantic and Gulf States.

The White Pelican (*Pelecanus trachyrhynchus*), about 5 feet long and 8 or 9 feet in expanse, is white; back of the head and breast, yellow; fore part of the wings, black; bill, sack and feet, yellow. Wintering in the Southern States, and breeding in the northwest, it is but accidental on the North and Middle Atlantic. The Brown Pelican (*P. fuscus*) is strictly maritime, found on the South Atlantic and Gulf Coasts, and in California. The most marked feature of these peculiar birds is the large sack under the chin, easily holding several quarts, and used as a sort of dip-net for

catching prey. The nest of the Pelicans is generally arranged on the ground near the water, and they lay large, white eggs.

The Darter or Snake-bird (*Plotus anhinga*), about 3 feet long, is "glossy greenish-black; a broad, gray wing-band formed by most of the coverts; lower neck behind and scapulars speckled with grayish-white; tertiaries striped with silvery-ash; tail, pale-tipped; filamentous feathers of neck, purplish-ash; the female, with parts of the head, neck and back, brown, the throat and breast, fawn-color, sharply margined with rich brown." (Coues.) It is an odd-shaped bird, and belongs to the Southern States.

Frigate or Man-of-War Bird (*Tachypetes aquilus*), some 42 inches long and 8 feet in extent, is a curious shaped bird, with long, slender, hooked bill, and pouch under the chin; immense spread of wings and long forked tail; very short legs and small webbed feet. The male is brownish-black, with more or less iridescence, and lighter underneath; the female, white on the neck and breast. This grand bird, of marvelous powers of flight, gregarious, especially in the breeding season, when it nests in bushes by the water, laying 2 or 3 greenish-white eggs, is found in the South Atlantic and Gulf States, and in the tropics.

The Yellow-billed Tropic Bird (*Phæton flavirostris*), about the size of a small Gull, satiny-white, rose-tinted in maturity; basal half of many of the shafts and fine markings in many of the feathers, black; bill, orange or yellow; the small webbed feet, black. A young male of this species, rare even on the Gulf Coast, was brought to me alive in Orleans Co., in September, 1876. It was picked up in a state of exhaustion in a clover field, after a heavy storm from the southwest.

The Skua Gulls or Jaegers, genus *Stercorarius*, are large,

rapacious Gulls of the northern seas; *hunters*, as the name Jaeger implies, with hawk-like bills; long, pointed wings; dark bodies, lighter underneath; the two central feathers finally projecting 4-8 inches beyond the otherwise square tail. They breed after the manner of the Gulls, in high northern regions, wandering south in winter to the New England or Middle States. Those are the Kua (*S. skua*), the Pomarine Jaeger (*S. pomatorhinus*), Richardson's Jaeger (*S. parasiticus*), or the Long-tailed Jaeger (*S. buffoni*). They vary in length, from 2 feet downward to several inches less. With great powers of flight, they chase other sea-birds till they either drop or disgorge their prey, and thus procure a rather disreputable livelihood.

The Ivory Gull (*Larus eburneus*), about 18 inches long and pure white in maturity, is an extremely arctic species, rarely reaching the United States in winter.

The Fork-tailed Gull (*Xema sabinei*), some 13.50 long, has the common coloring of the Gulls, except that the head is slate-colored, and there is a black color around the neck, and a black edge from the shoulder to the tip of the wing. It is a very northerly species, rarely reaching New York in winter.

The Gull-billed Tern (*Sterna anglica*), about 13.50 long, the mantle extending over the rump and tail, may be known by its short, thick, black bill. It is found from New Jersey southward on the Atlantic.

The Caspian Tern (*Sterna caspia*), the common color of the Terns, the tail less forked, known by its great size—some 20 inches in length—is an arctic species, but has recently been found breeding off the coast of Virginia. It winters from Massachusetts southward.

The Royal Tern (*Sterna rigia*), some 19 inches long, the rich, silvery mantle extending over the tail, is an abundant

southern species, sometimes reaching New Jersey. The 2 or 3 eggs, 2.72×1.72 , are white or buffy, spotted and blotched with dark brown and a lighter shade.

The Sandwich Tern (*Sterna cantiaca*), some 15.50 long, known by its pale, silvery mantle, and its black bill tipped with yellow, is also a southern species.

The Least Tern (*Sterna superciliaris*), only 8 or 9 inches long, with white forehead, and light pearly mantle extending over the tail, reaches Massachusetts, breeding generally southward on the Atlantic.

The Sooty Tern (*Sterna fuliginosa*), some 16 inches long, is brownish-black; under parts, outer web of outside tail-feathers and forehead, white. It is abundant in Florida.

The Noddy Tern (*Anous stolidus*), about 16 inches long, dark colored, darker on the wings and tail, lighter on the head and neck, and always noticeable by means of its white crown, is also an abundant southern species.

Our Wild Pigeon (*Ectopistes migratorius*), some 16 inches long, is dull blue above, with olivaceous on the back; dull red below, whitening toward the under tail-coverts; neck with a fine golden and ruby iridescence; black spots in the wing-coverts; tail bluish-black in the middle and white or ashy outside; the female more olivaceous above, and dull grayish beneath. Once astonishingly abundant, fairly darkening the air in its migrations, it is now much thinned out in Eastern North America.

The Pinnated Grouse, or Prairie Hen (*Cupidonia cupido*), is 19 inches long and 27 in extent; upper parts transversely marked with black and reddish-brown; under parts with broad, distinct bars of dark brown and white; two little wings on the sides of the neck, under which are two round, inflated sacks. Female lighter, and without the neck-wings

and inflated sacks. It is a bird of our western prairies, especially about the upper Mississippi. A few are still found on Martha's Vineyard and in Northwestern Ohio.

The Semipalmated, or Ring Plover (*Ægialitis wilsonius*), some 7 inches long, is ashy-brown above, with dark olivaceous shade; white beneath; broad bar on the forehead and another on the breast, black,—the latter grayish brown in the young; eye-lids bright orange; the short, yellow bill tipped with black; the yellowish feet noticeably semipalmate. It is an abundant migrant on Niagara River, as also on the New England Coast.

The last three species were overlooked in their proper connection.



ERRATA.

The Curlew Sandpiper (*Tringa subarquata*), some 8.50 long and 15.50 in extent, dark brown above, becoming grayish on the rump and wings, the feathers generally edged with yellowish-red; the white tail-coverts above crossed with brown bars; secondaries, with white tips; underparts, yellowish-red,—is a European species, not infrequently found on the Atlantic coast, but not known to breed on this continent. (This species was overlooked in the work.)

Page 98, line 18, the *comma* should be inserted after the word *above* instead of after the word *feathers*.

Page 105, line 2 from bottom, and all other similar instances, the single figures mean inches, as indicated generally in the work by the decimal points, or by the word *inches*.

Page 120, line 9, for *clearing* read *cleaving*.

Page 129, line 4 from bottom, for *light* read *twilight*.

Page 136, line 8, for *crown* read *brown*.

Page 148, line 12, the word *the* should be inserted before the word *cliff*.

Page 310, line 18, for *isles* read *aisles*.

Page 433, line 6 from bottom, for *nesting* read *resting*.

Page 574, line 18, for *trampled* read *trample*.

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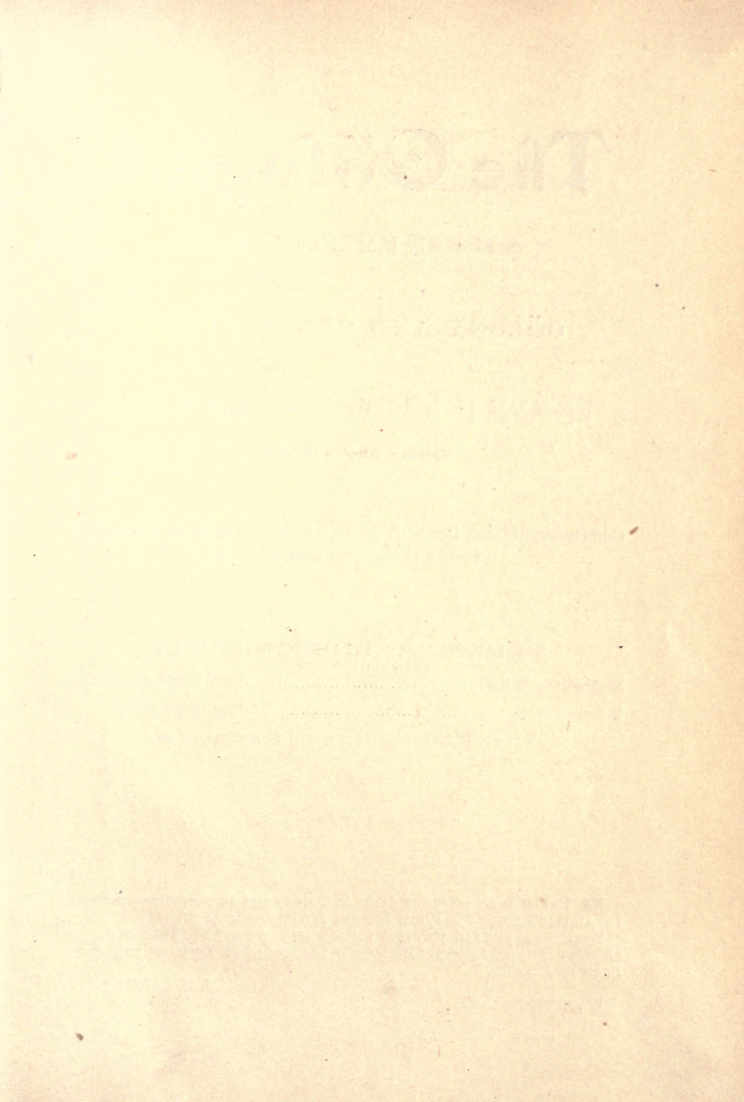
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The scientific names in the index, are those of the American Ornithologist's Union, now universally adopted.





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