

BIRDS AND NATURE

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PAGE PLATES OF FORTY-EIGHT COMMON BIRDS BY
COLOR PHOTOGRAPHY

A GUIDE IN THE STUDY OF BIRDS AND THEIR HABITS



VOLUME V

COMPLETE IN FIVE VOLUMES WITH 240 PAGE PLATES IN COLORS.
BEING A SCIENTIFIC AND POPULAR TREATISE ON
FOUR HUNDRED BIRDS OF THE UNITED
STATES AND CANADA



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IMPEYAN PHEASANT.

(*Lophophorus impeyanus*)

25 Life-size

The Impeyan Pheasant (*Lophophorus impeyanus*)

By I. N. Mitchell

This beautiful bird which is noted for the wonderful color and metallic iridescence of the male's plumage, is a native of the higher and colder regions of India. It is greatly admired by the natives of India, who have given it the name Monal or the bird of gold. The metallic luster of its plumage is so very marked that some authorities have been led to give this bird the specific name *resplendens*. The plumage of the males of nearly all the pheasants is quite as strikingly brilliant, while that of the female is much more somber.

Writing of this pheasant as it is found in its forest home in the Himalayas, Mr. Wilson says: "The Monal is found on almost every hill of any elevation, from the first great ridge above the plains to the limits of forest, and in the interior, it is the most abundant of our game birds." And another enthusiastic observer writes: "There are few sights more striking where birds are concerned, than that of a grand old cock shooting out horizontally from the hillside just below one, glittering and flashing in the golden sunlight, a gigantic rainbow-tinted gem, and then dropping stone-like, with closed wings into the abyss below."

When the severe weather of winter sets in, the pheasants descend into the forests of lower altitudes where the ground is covered with a thick layer of decaying leaves. Here they find an ample supply of insect food. Though a few of the older birds remain in higher altitudes throughout the winter, the majority descend to lower levels, and in the spring again ascend the mountain sides, as the snow and frost disappear.

"The call of the Monal is a loud, plaintive whistle, which is often heard in the forest at daybreak or toward evening, and occasionally at all hours of the day." It is an omnivorous feeder, its food consisting of grains and other seeds, insects, fleshy roots and succulent herbage. The length of its wings, which are very short for the size and weight of the bird, shows the Impeyan Pheasant to possess terrestrial habits. Its flights, though quite rapid, are short, and taken, as a rule, only when frightened."

The Impeyan Pheasant does not seem to bear a change of climate. Many attempts to domesticate them have been made in several countries. Lady Impey was the first person who carried them alive into Europe and there made an unsuccessful attempt to naturalize them. It was in recognition of her efforts that this pheasant was given both its specific and its common names. The bird of our illustration died near the city of Chicago, while in captivity with a number of related forms.

The Impeyan is not the only pheasant inhabiting that wonderful country which is noted alike for its beautiful birds, its beautiful flowers and for its ferocious animals. India also claims the magnificent tragopans or horned pheasants, of which there are four or five species. The males possess two fleshy growths

which lie, concealed by feathers, on the crown above the eyes. When these growths are erected, they resemble two blue horns projecting from the top of the head.

The charms of all these fascinating birds are only fully exhibited during the breeding season. Words cannot express the beauty of their "nuptial dances" when they show to the female the resplendent metallic coloring of their plumage, which varies in tint with every motion of their bodies, and with the ruffling of their feathers.

Winter Birds

By S. S. M.

It is a great mistake to think we must wait until spring or summer before we can begin the study of birds.

Besides the owls, of which mention was made last month, there are several varieties of small birds that are with us the year round. Cold and stormy, indeed, must be the day if one may not be able to find the energetic little fellow, the White-Breasted Nuthatch, busy among the barren branches. You may know him by his slate-blue back, black cap and nape, and white belly. He is much given to hanging on the sides of trees, head downward. Up the tree he goes, only to whirl round and come scooting down the other side head foremost. Round and round he goes, poking his needle-like bill into all the crevices of the bark after insects, their grubs or their eggs.

He is a much better climber than the Woodpecker, as the latter contents himself with running up the trees, while the Nuthatch goes either up or down with equal ease. The tail is short and square and is not used in climbing. While the bill is not so strong as that of the Woodpeckers, yet it is a very effective instrument in removing insects' eggs and larvae from crevices in the bark, and even in excavating a nesting hole in some decayed limb. The Nuthatch does not confine his diet to insects and their larvae, but is very fond of some kinds of nuts. By either holding the nuts, beech or chestnuts, or seeds of weeds, in his claws, or jamming them into a crack in the bark, he hacks them open. The Nuthatch nests very early, as early as the middle of April.

Two other winter residents are the Downy and the Hairy Woodpeckers. These two birds are first cousins, being so nearly alike that one not well acquainted with them may easily mistake one for the other. The principal point of difference is in size—the Hairy being about three inches longer than the Downy. Both birds are black and white spotted, or barred, on the back and head, and almost white on the belly. They differ only in the markings of the outer tail feathers. In the Downy these are white, barred with black; in the Hairy, white without black bars. These two, like all the three hundred and fifty known species of Woodpecker, have the strong bill, square on the end like a chisel, with which they gouge the hardest wood in search of food, or in constructing a nesting place. The tongue is very

long and strong, and armed at the tip with horny barbs, with which they can speak and extract their food from holes and crannies. The feet have two toes in front and two behind, fitted for clinging. They never perch, in the true sense of the word, as do birds that have three toes in front and one behind. The tail feathers are very stiff and strong and are used to brace the bird against the tree. A very curious thing about Woodpeckers is that the root of the tongue is not at the back of the mouth or bill; it extends clear round the back part of the head, running over the top of the head, and ends extending up between the eyes. This arrangement enables them to thrust the tongue very far out of the mouth.

Both these Woodpeckers excavate holes in trees in which they nest, and which are their homes during the winter. They seldom use the same hole as a winter home that they have used as a nesting place. I have many times observed, late in the fall, the newly dug hole of the Hairy Woodpecker. He invariably chooses the south side of the tree, or the under side of a limb for his winter home.

These birds may both be found at all times during the winter. If the weather is very severe or stormy they do not venture out much. But let the sun shine and you will hear them hammering away on some limb, and hear their "Quip, sher, cher!" as they dive with their undulating wave-like motion through the air.

We must not forget our cheery little friend, the Chickadee. Stormy weather has no terror for them. Indeed, they seem to delight in a snowstorm. They are very companionable among themselves during the winter. When the weather is severe they gather about the hayricks, or find their way into the sheds or mows. They are great destroyers of weed seeds and insects.

The Turkey Buzzard is one of Nature's scavengers, and, as such, is one of the few birds whose services to mankind are thoroughly appreciated. There are others of equal or even greater value who daily earn their right to good will which we stupidly and persistently refuse to grant them; but of the Turkey Buzzard's assistance we have frequent convincing proof, and the decree has gone forth that injury to this bird is punishable by a fine.

Buzzards are very numerous in the South, and are so tame that they walk about the streets like domestic fowls. I have seen the banks of the Mississippi at New Orleans completely lined with them. They keep the banks perfectly cleared of all decaying animal matter, thus rendering a great service to man. Gulls are also scavengers, and are protected by law. Our common Crow does more good than we appreciate, by devouring the carcasses of dead animals.

The Lark Sparrow (*Chondestes grammacus*)

By W. Leon Wawson

Synonym.—QUAIL-HEAD.

Description.—*Adult*: Head variegated black, white, and chestnut; lateral head-stripes black in front, chestnut behind; auriculars chestnut, bounded by rictal and post-orbital black stripes; narrow loral, and broader submalar black stripes; malar, superciliary, and median stripes white, the two latter becoming buffy behind; upper parts buffish gray-brown, clearest on sides of neck, streaked by blackish brown centers of feathers on middle back and scapulars, persisting as edging on the fuscous wings and tail; tail-feathers, except middle pair, broadly tipped with white; below white, purest on throat and belly, washed with grayish buff on sides and crissum, also obscurely across fore-breast, in which is situated a central black spot. Length 6.25 (158.8); wing 3.39 (86.1); tail 2.62 (66.6); bill .46 (11.7).

Recognition Marks.—Sparrow size; head variegated black, white, and chestnut; fan-shaped tail broadly tipped with white and conspicuous in flight (thus easily distinguished from the Vesper Sparrow with square tail and lateral white feathers).

Nest, of grasses, lined with finer grass, rootlets and occasionally horse-hair, on the ground or, rarely, in low bushes or trees. Eggs, 3-5, white, pinkish or bluish white, spotted and scrawled in zigzags and scrolls with dark browns or purplish blacks, chiefly at the larger end. Av. size, .82 x .65 (20.8 x 16.5).

Range.—Southern Ontario, and Mississippi Valley region, from Ohio, Illinois and Michigan to the Plains, south to southern Texas and northwestern Alabama. Accidental near Atlantic Coast.

Dusty roadsides, sunny pastures and areas of broken ground harbor this plainly colored bird from the time of its late arrival in spring until the young are ready to fly. As the heat of summer increases the birds retire to the seclusion of sparsely wooded pastures or fence-row thickets.

The males sing upon arrival, selecting for this purpose a station upon the summit of some outlying tree. The song is best described in the words of Mr. Ridgway who had ample opportunity to study it in Illinois and the extreme West, and who has done more than anyone else to bring the bird into well-deserved prominence. He says: "This song is composed of a series of chants, each syllable rich, loud and clear, interrupted with emotional trills. At the beginning the song reminds one somewhat of that of the Indigo Bird (*Passerina cyanea*) but the notes are louder and more metallic, and their delivery more vigorous. Though seemingly hurried, it is one continuous gush of sprightly music; now gay, now melodious, and then tender beyond description—the very expression of emotion. At intervals the singer falters, as if exhausted by exertion, and his voice becomes scarcely audible; but suddenly reviving in his joy, it is resumed in all its vigor, until he appears to be really overcome by the effort."

This bird more frequently than others is found singing in the middle of the very hottest days in summer. At such times his tremulous song comes to the ear



LARK SPARROW.
About Life-size.

like the gurgling of sweet waters. Next after the Bachman I would accord him the highest place in song among all sparrows.

The accompanying illustration tells the story of nest and eggs perhaps better than words. It is worth while to note that the picture was taken at McConnellsville, in Morgan County, which must be quite near the limit of the bird's present range. Dr. Wheaton first recorded the Lark Sparrow as an Ohio bird in 1861. Since that time it has steadily increased in numbers, although it is nowhere a common bird.

Our Rose-Breasted Grosbeak

By Edward B. Clark

Here is a bird that deserves words as fine as its feathers. Our Rose-Breasted Grosbeak is a beauty, is a singer, is good tempered—and it eats potato bugs.

We have a good many Grosbeaks—the gorgeous cardinal, the handsome if somewhat stupid evening Grosbeak, the blue Grosbeak, and some others. But for standard qualities give us the Rose-Breast. It nests in the suburbs of Chicago and is fairly abundant in some seasons, and yet a good many people never seem to have seen it or to have heard about it. It is worth knowing, worth hearing and worth looking upon.

The Rose-Breasted Grosbeak dresses in black and white. It always wears, however, a blush rose in the top buttonhole of its vest, or, if you will, waistcoat, in order to accentuate the simplicity of its attire. The red of the rose shades off into the yellow of the jonquil to the right and left, and when the Grosbeak opens its wings to fly you get the whole of the bright color scheme at once.

Some time along back near the centennial year the Colorado beetle, otherwise, if less elegantly, known as the potato bug, began to make its way east from the Rockies, visiting and devastating the potato fields of the farmers on the way. Paris green became fashionable just about that time in farming circles. The poison was mixed with water and poured over the potato vines, the object being, of course, to kill the bug which was devouring the potato plants.

One morning a farmer walked into his field and found four dead Rose-Breasted Grosbeaks. The birds had been dining off potato bugs which were saturated with paris green. A good many Grosbeaks sacrificed their lives before it conclusively was proved that this Beau Brummel of birds would eat a viciously bitter beetle which all other birds shunned.

The Rose-Breasted Grosbeak has saved much money for the potato growers in the United States. It deserves well of the people. Its song is something like that of the Robin, but the Robin is a dowdy in dress as compared with the Grosbeak. The Rose-Breast is a good bird and friendly. It is worth while to scrape acquaintance with it at its homecoming in the springtime. Just now it is preparing to leave for the Southland. Next April it will come back, and we hope that with every coming year there will be more human friends to welcome it.

The White-Tailed Ptarmigan (*Lagopus leucurus*)

By C. Hart Merriam

Length: 14 inches.

The White-tailed Ptarmigan is an inhabitant of the alpine summits of the mountain ranges of western North America. Its breeding range is coincident with its geographical distribution and extends from Alaska to New Mexico, but is limited to the higher mountains and is always above timber line. This bird rarely leaves these great heights except in the most severe weather of winter, when it rarely descends below an altitude of eight thousand feet, though it has been taken at a height of only two thousand feet.

It is a beautiful bird and an excellent illustration of protective coloration, the darker color of the summer plumage well harmonizing with its somber surroundings, while the white of its winter dress matches the snow of the mountain sides. When sitting on its nest "so nearly does the bird resemble the gray boulders which surround her on every side, that the discovery of the nest is largely due to accident." At such a time, the bird is flushed with difficulty. One observer writes: "Twice have I escaped stepping upon a sitting ptarmigan by only an inch or so, and once I reined in my horse at a time when another step would have crushed out the life of a brood of nine chicks, but an hour or so from the egg. In this case the parent crouched at the horse's feet and, though in momentary danger of being stepped on, made no attempt to escape until I had dismounted and put out my hand to catch her. She then fluttered to the top of a rock a few feet distant, and watched me as I handled the young, constantly uttering low anxious protests." It is said that sitting ptarmigans have been lifted from their nests and the eggs handled, the bird simply uttering an occasional sound not unlike that of a sitting hen. In the autumn the ptarmigan is a much shyer bird and when closely approached will "run about, holding the tail elevated and looking very much like a white fan-tail pigeon."

Major Bendire in his "Life Histories of North American Birds," gives the notes of Mr. Dennis Gale, who studied the habits of two broods of White-tailed Ptarmigans; one containing seven and the other five chicks. He believed that the males took no part in the parental cares, but the mother birds were very devoted. He says: "There was a disposition, clearly proven with the chicks of both broods, to hide when the hen signaled danger; but some of the older ones flushed and flew at least fifty yards. The females were very tame and would not flush; in fact, they could not be induced by mild treatment to leave the place where the young had hidden. They walked around me so close that I could have touched them with my hand, and showed a marked concern for their broods, clucking in a manner very similar to our domestic hen."

No description will more graphically portray the characteristics of the White-tailed Ptarmigan than that prepared by Mr. T. M. Trippe for Dr. Coues' "Birds of the North-West." Mr. Trippe studied this bird in the mountainous regions of



Colorado and writes as follows: "The White-tailed Ptarmigan is a very abundant bird on the main range, living entirely above timber line the year around, except during the severest part of winter, when it descends into the timber for shelter and food, occasionally straggling as low as ten thousand feet. It begins to change color about the middle of March, when a few specks of blackish-brown begin to appear in the plumage of the oldest males; but the change is very slow and it is late in April before there is much black visible, and the close of May, or early in June, before the summer plumage is perfect. The ptarmigan builds its nest in the latter part of June. The nest—which is almost always placed on or near the summit of a ridge or spur, many hundred feet above timber-line—is merely a depression in the ground, lined with a few straws and white feathers from the mother's breast. While on her nest, the bird is very tame. Once, while walking near the summit of the range, I chanced to look down and saw a ptarmigan in the grass at my very feet; at the next step I should have trodden upon her. Seeing that she did not appear frightened, I sat down gently, stroked her on the back, and finally putting both hands beneath her raised her gently off the nest and placed her on the grass, while she scolded and pecked my hands like a setting hen; and on being released, merely flew off a few yards and settled on a rock, from which she watched me till I had to go away. Late in July I came across a brood of young ones, apparently not more than four or five days old. They were striped with broad bands of white and blackish-brown, and looked precisely like little game chickens. The mother flew in my face and hit me with her wings, using all the little artifices that the quail and partridge know so well how to employ, to draw me away; while her brood, seven or eight in number, nimbly ran and hid themselves in the dense grass and among the stones. About the first of September the ptarmigan begins to change color again; but, as in the spring, the process is very gradual, white feathers appearing, one by one, and taking the place of the dark ones. The white on the lower parts enlarges first; then the white area of the wings; and next, white specks appear on the upper parts, becoming larger and more numerous as the season wears on; but so gradual is the change, that a month after it begins, there is not much difference in the plumage perceptible, the general aspect being that of summer. The dark areas predominate throughout October and, as I have been informed by persons who have killed them throughout the year, it is late in December or in January before they become pure white, some few birds showing occasional dark spots even throughout the latter month.

"The ptarmigan feeds upon the leaves and stalks of various alpine plants. It also lives largely upon insects, and in winter is said to subsist on the buds and leaves of the pines and firs. Its flesh is light colored, though not as white as that of the gray grouse, to which it is usually considered inferior for the table. In localities where it is seldom molested it is very tame, and I have been informed by persons whose word is worthy of belief, that they have frequently killed them with sticks. Nimble of foot, the ptarmigan frequently prefers to run away on the approach of danger, rather than take wing, running over the rocks and leaping from point to point with great agility, stopping every little while to look at the

object of alarm. The flight of the ptarmigan is strong, rapid and at times sustained for a considerable distance, though usually they fly but a few hundred yards before alighting again. It resembles that of the prairie hen, consisting of rapid flappings of the wings, alternating with the sailing flight of the latter bird. The note is a loud cackle, somewhat like the prairie hen, yet quite different; and when uttered by a large flock together, reminds one of the confused murmur and gabble of a flock of shore-birds about to take wing. It is a gregarious bird, associating in flocks throughout the year, except in the breeding season.

"The colors of the bird closely resemble those of the surrounding objects, at all seasons of the year. In its summer plumage of speckled black and gray, it is very difficult to detect while sitting motionless among the gray and lichen-covered rocks. The ptarmigan is apparently well aware of this, and often squats and remains quiet while one walks past, trusting to its resemblance to the surrounding rocks to escape observation. In summer the white areas of the plumage are completely hidden while the bird is squatting, although plainly visible on the wing; in winter the first appearing black specks are concealed beneath the white feathers; and at this period, I am informed, is almost indistinguishable from the snow. On being pursued, it will dive into the snow and reappear at a considerable distance."

The Sea Gulls

By Elizabeth E. Elliott

Whirling and dipping with stately wings,
The sea gulls float over the bay,
Scanning the water with sharpest eyes,
All ready to pounce on their prey.

Broad pearl-gray wings with ebony tips,
And breasts like the purest of snow,
Now resting lazily in mid-air,
And now dashing to depths below.

Now with their heads tucked under their wings,
They sleep on old ocean's calm breast,
Now after battling with fiercest gales,
On the stern rock-bound coast they rest.

Scavengers of the shore we know them,
Cleansing all refuse from the beach,
While o'er the sea "Akak" "Kakak"
Echoes their wild, discordant screech.

The Meadow Lark

By Evely Phinney

I heard a Lark in the meadow sing:
"Life soon passes!"
He called from his throne of grasses,
"Life is vanishing, vanishing!"

I saw him, jubilant, afar—
Wind-swept rover—
Perched in my field of clover.
Insistent he as prophets are.

Such sky, such scent, such plains of air!
Such waters flowing!
Yet: "Life is going, going!"
He sang and sang, ecstatic, there.

"O Bird," I cried, "what hope is thine,
What longed to-morrow,
That thou shouldst such contentment borrow,
Nor for thy little day repine?"

I watched him and I pondered long.
On my ear beating,
Came to me dominant, entreating,
That liquid affluence of song.

What hope, what rapture in that strain!
Like flaming fire
My soul swept up and could not tire,
Borne on those gusts of bliss and pain.

I mounted, at heaven's gate to cling.
"Life soon passes!"
O joy! O voice from the grasses!
Life is vanishing, vanishing!

—*Atlantic Monthly.*

The California Towhee (*Pipilo crissalis*)

By Joseph Grinnell

Length: $7\frac{1}{2}$ inches.

California, with its beautiful scenery and its wonderful variety of interesting forms of vegetable life, is the home of the Towhee of our illustration. Its range is long and narrow, including only that region which lies west of the Cascade and Sierra Nevada mountain ranges, from Oregon southward to the northern portion of Lower California. Like many other birds which are abundant and familiar, the California Towhee is known by several common names. Some of these are: Brown Finch or Towhee, Crissal Towhee Bunting and Canyon Finch. The last name, though very commonly applied to the bird, seems quite inappropriate, for this Towhee is found not only in the canyons, but also on the level country wherever there is a growth of trees or shrubbery. It also frequents the mountain sides to a height of over three thousand feet.

The California Towhee is not only abundant, but it is also one of the most characteristic birds of the States, whose name it bears. It belongs to a group of the finch family, which contains a number of species with terrestrial or semi-terrestrial habits. This group is represented in the eastern portion of the United States by a single species—the chewink or common towhee. In the southern and western portions of our country, however, there are several species and the genus reaches its greatest development in Mexico, where there are several kinds not found elsewhere.

The habits of the California Towhee are similar to those of the other members of its genus. It is quite partial to the shrubby banks of streams where it seeks its food by scratching among the leaves lying on the ground. It is an excellent example of protective coloration; the hues of its plumage resembling quite perfectly those of the earth and fallen foliage. In some localities it is a constant companion of the California thrasher. The song of the California Towhees consists of a "few quaint chirping and hurried notes, as they sit perched on a low bush in the spring." Its most striking characteristics are its brownish color, its long tail and its jerking flight as it passes from bush to bush.

Regarding its nesting habits, Dr. J. G. Cooper says that he found a large number that were "built in bushes, from two to four feet from the ground, and containing but three eggs, with the exception of one, which contained four." He also found nests that were built in low trees and in a vine, growing over the porch of a house. However, these Towhees vary greatly in the selection of a nesting site. Not infrequently the nest is placed on the ground, in hollow tree trunks, or in crevices of rocks which are hidden by vegetation. Nests have also been found in cactus plants not more than a foot above the ground, and in trees fully fifteen feet high.



CALIFORNIA TOWHEE.

(*Pipilo californicus*).

Life size.

California Brown Towhee (*Pipilo crissalis* and varieties)

Length: About 9 inches. The long tail and brown plumage with white belly distinguish these ground- and thicket-loving birds.

Range.—Southwestern Oregon, through California to northern Lower California

The Brown Towhees, of which the California form is a good type, are characteristic of the brushy canyons of the far west, where they skulk and hide among the shrubbery and cactus much as do the common eastern towhees. Their powers of wing are not great and their long tails and heavy bodies render their flight awkward in the extreme. On the ground, however, they run with great ease and speed. In California brown towhees are common in the parks and gardens, and in every way are very much more familiar than the related towhee of the east. Like its eastern cousin, it is much addicted to scratching among leaves and rubbish, for which work its stout legs and claws are particularly adapted. The thin "tchip," which is the call note, seems out of all proportion coming from such a stout, vigorous body. The birds of this group are not fine songsters, but their simple ditties are pleasant to hear in the waste places where they are generally found.

The brown towhee is much more of a vegetarian than an insect eater, and in California Professor Beal found that 85 per cent of its yearly food consists of fruit, grain and weed seeds.

Birds' Christmas

Why not make a Christmas present
To the birds that with us stay
When the snowflakes fast are falling,
And the skies are dull and gray?
Just a little bag of suet
That can dangle from a tree
Will the woodpeckers give pleasure;
While the merry chickadee
May be made supremely happy
By crumbs scattered round our door;
And as soon as these are eaten
He will quickly chirp for more.
At Christmas, the time of giving,
Heed then these advising words,
And do not neglect to furnish
Some such present for the birds.

—NELLIE M. COYE, in *Our Dumb Animals*.

Return of the Birds

By Melicent Eno Humason

Early morning and early May—that is the time to study the birds, before the foliage is mature and offers leafy coverts to the shade-loving songsters.

I know where lies the bed of an old canal, its ridges topped by the spicy sprays of the white pine, and there it is a joy to come, in the warm spring days, and worship in the sun-stained aisle.

The birds, from the little vested fellows to the pompous choristers, keep their matin hymns well in progress until the heat of noon, when only a few solos and occasional duets may be heard.

The big, sleepy, Rose-Breasted Grosbeak sits quietly on a bough, watching the motions of the others, and apparently directing their songs.

A little black and white creeping warbler sidles around the trunk of a red cedar, darts recklessly across the path—almost poking his fearless feathers into my eyes—and clings to another trunk, lisping his slippery notes meanwhile.

“Weachy, weachy, weachy, weachy!” shrills the oven bird from a tall-treed copse close by—“weachy, weachy, weachy”—nearer, strident and sharp, grating as a violin note which has slipped off its key from sheer exuberance.

Now for a few seconds, all is silent, until I hear a faint stirring among the pine-needles, where, scarcely distinguishable from the dull earth tones of olive green and tawny-brown, a couple of these birds have lighted, and are strutting haughtily about like pouter pigeons, until one daintily flits to the topmost branch of a sapling, and lifting up his head, canary-wise, utters his piercing song.

Two shrieking blue jays, flaunting their brilliant plumage against the duller blue of the sky, whirr far above my head, seeking the tallest pines, while the tiny bay-breasted warbler plays “ring-around-a-rosy” all by himself in the feathery shad bush close at hand.

A sharp scratching and pecking issues from the dry, withered leaves under an old oak, and I curiously wonder if a white hen with a brood of chicks has wandered far, far from home; but instead of the customary “cluck, cluck,” mingled with the piping chirp of the youngsters, a good-natured “to-we” accompanies the rumpus, and to my surprise Herr Chewink and his dowdy frau are getting their dinner with the energy of a whole barnyard.

The sudden hush in the woods, and the overhanging sun, assures me that noon has come, so reclining on a fragrant couch of pine needles, I bring forth my bottle of coffee and my egg sandwich, and proceed to enjoy my noontide repast.

As I leisurely survey the opposite bank of the one-time canal, Herr Chewink, resigning his post as butler, and leaving the drudgery of domestic affairs to his wife, flutters to the leafless bough of a scrub-oak, and offers me a musical treat. ——————(trill) is indeed the only number on his program, but it is so friendly, so confident, so sweet that I listen in perfect delight, fain to applaud, but knowing the outcome of such noisy approval.

Far off, always in the highest places, floats to me the incessant zee, zee, zee, zee, zee, zee, zee, of the tireless black-throated warbler, the sixth zee falling lower than the rest, like a dropped stitch, and save for him, and my musical performer, the woods are quiet, for this is the mid-day siesta.

Early morning and early May—that is the time for the lover of birds.

Night-Flying Birds

"It is difficult to believe that at times during the season of migration the sky at night is filled with birds from dusk until dawn. If they see the earth below, it must be too dim to guide them on their journey. Still they find their way just as surely as do those birds which travel by day.

"The day fliers are hardy rovers which are used to the open, and do not hesitate to venture far from cover. But the night fliers are the shy, retiring birds of thickets and undergrowth which rarely go far from their own door-step. Or, if they live in trees, their flight is usually only from tree to tree. The thrushes, warblers, vireos, and small flycatchers are all night fliers.

"For several reasons, we know more about the travels of the night fliers than we do about those of the day fliers. First, because many more birds travel by night than by day. Second, because practically all birds that fly by night are real migrants. Third, because the night fliers seem unable to avoid the light-houses in their way, and the number killed by striking these beacons erected for man's safety has given us a vast amount of information concerning the birds that travel after dark.

"By night as well as by day our ears can tell us much about the number of birds that are passing overhead. Indeed, during nights when many birds are flying, we can, from favorable places, such as high hilltops or cities in the birds' highway, hear their call-notes almost constantly. The hill brings us nearer the birds, and the city lights bring the birds nearer to us. Light seems to attract them as it does moths.

"An ornithologist at Madison, Wisconsin, states that on the night of September 14, 1906, no less than 3,800 bird-calls were heard from one place. The average was twelve calls for each minute, but at times so many calls were heard that it was evident the air above was thronged with birds."—Frank M. Chapman.

The House Finch (*Carpodacus Mexicanus frontalis*)

By S. Waldo Bailey

Length: About $5\frac{1}{2}$ inches.

This active and pretty little bird is an attractive feature of the landscape of the western United States. It is a common bird throughout its range, which extends from Oregon southward into Lower California and western Mexico. Eastward its range extends to Colorado and the western part of Texas. It is one of the best known of the birds of southern California, where it is often called the California Finch or Linnet. The brightly colored plumage of its head has also given it the name Red-headed Linnet. This bird is better known in many localities by the names Burion and Crimson-fronted Finch.

The House Finch is not particular in the selection of a site for its home and will build "anywhere, from the limb of any tree to the side of a haystack or a tin can on a porch." Neither is it particular in the choice of building materials, using those which are furnished by its environment. Though the nests are usually constructed with coarse grasses or weeds and lined with soft fibers, hair or fine roots, the bird may use straws, strings, small roots, strips of bark fibers and hair in the outer wall, and feathers for the lining. It has been known to pre-empt the unoccupied nests of other birds, such as those of the oriole, the cliff swallow and also woodpecker holes.

Dr. J. G. Cooper states that he has found the nests "in trees, on logs and rocks, inside a window shutter, in the holes of walls, under tile or thatch roofs, in haystacks and barns, in the interstices between the sticks of a hawk's nest, and in an old nest of an oriole." Dr. Coues found that this Finch will occupy the old nests of barn swallows, and "not infrequently would take possession by force, after an animated contest, of a nest just finished, making its disconsolate owners, who had little chance against the spirited interlopers, build another nest."

Its song is lively and varied and is heard throughout the year wherever the bird is a constant resident. When caged they are called California Linnets, and they seem to thrive in captivity though the bright color of the head is said to finally change to yellow.

Though the House Finch feeds on the seeds of the wild mustard and of other wild herbaceous plants, as well as on the seeds of the cottonwood and other trees, it is also very destructive to the seeds, fruits and tender young plants of gardens. As it enjoys the society of man and seeks his protection, when abundant, it is often very destructive in his cultivated grounds and gains only his enmity. It is not surprising that this pretty bird often becomes a nuisance when we realize that it may raise three broods in a season.



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HOUSE FINCH
(Carpodacus mexicanus frontalis)
About $\frac{1}{2}$ Life-size

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A Few of the Bird Family

The Old Bob White, and chipbird;
The flicker and chee-wink,
And little hopty-skip bird
Along the river brink.

The blackbird and snowbird,
The chicken-hawk and crane;
The glossy old black crow-bird;
And buzzard down the lane.

The yellowbird and redbird,
The tom-tit and the cat;
The thrush and that redhead bird
The rest's all pickin' at!

The jay-bird and the bluebird,
The sap-suck and the wren—
The cockadoodle-doo bird,
And our old settin' hen!

James Whitcomb Riley.

Blue Goose (*Chen caerulescens*)

Range.—Breeds probably in interior of northern Ungava; winters from Nebraska and southern Illinois south to coasts of Texas and Louisiana.

We know comparatively little of the life history of the blue goose. That it breeds in the far North is certain and it is surmised that it nests in the interior of Ungava. Few ornithologists have ever seen the bird, even in migration, though it is known to pass down the Mississippi Valley in considerable numbers. If, as is said, this goose migrates by night as well as by day, one reason for its apparent scarcity is evident. A new chapter was added to the bird's history when, in 1910, McAtee and Job found it wintering by thousands in the delta of the Mississippi River. These observers report that the geese were in such numbers as to inflict great damage on pasture lands. Like all its relatives, this species is a strict vegetarian and is particularly fond of the tender shoots of grass or grain. Eaton, in his "Birds of New York," after remarking that the blue goose is one of the rarest waterfowl which visits the waters of New York State, gives the following synonyms under which the bird is known locally: Blue snow goose, blue-winged goose, blue wavy, white-headed blue brant, white-headed goose. The list would seem to indicate that at some time or other the goose was more widely distributed or better known than at present.

The Road Runner (*Geococcyx Californianus*)

By Gerard Alan Abbott

Length: About 20 inches.

The range of the Road-runner is very restricted and includes the southwestern United States from Texas to the Pacific Ocean. It is also a native of the larger part of Mexico, and it is found as far northward as southern Utah. It is practically a resident of all but the northern portion of its range.

This peculiar bird has several common names, all more or less suggestive of its habits. Some of the more striking of these common names are the Ground Cuckoo, the Chaparral Cock, the Lizard Bird and the Snake-killer. The name Road-runner was given this bird because of its terrestrial habits and the rapidity with which it moves over the ground, where it spends much of its life searching for its food. This consists of insects, snakes, lizards, snails, worms and even small rodents and young birds. It destroys vast numbers of grasshoppers and beetles, and one observer states that he found in the stomach of one a garter snake that was fully twenty inches long.

Major Charles Bendire has given the following excellent account of his observations of the habits of this species: "Road-runners are ordinarily rather shy and suspicious birds, and not as often seen as one would think, even where comparatively common. Within the United States they are most abundant along the southern borders of Texas and Arizona, and in southern California. Notwithstanding their natural shyness, they are inquisitive birds, and where they are not constantly chased and molested will soon become used to man. One of these birds paid frequent visits to my camp, often perching on a mesquite stump for half an hour at a time within twenty yards of my tent. While so perched it would usually keep up a continuous cooing, not unlike that of the mourning dove, varied now and then by a cackle resembling that of a domestic hen when calling her brood's attention to some choice morsel of food. This call sounded like 'dack, dack, dack,' a number of times repeated. Another peculiar sound was sometimes produced by snapping its mandibles rapidly together. While uttering these notes its long tail was almost constantly in motion and partly expanded, and its short wings slightly drooped. In walking about at ease the tail is somewhat raised and the neck partly contracted. When suddenly alarmed the feathers of the body are compressed and it trusts almost entirely to its legs for escape, running surprisingly fast. While running it can readily keep out of the way of a horse on a fair gallop on comparatively open ground, and should the pursuer gain too much on the bird it suddenly doubles on its course and takes advantage of any thickets or broken ground in the vicinity, and is soon lost to sight. Its flight is apparently easy, and, considering its short wings, is rather swift."

The fleetness of the Road-runner is shown by the statement of an eye-witness, who, when in southern California, saw one of these birds chased by ranchmen for a distance of a mile or more at a high speed, when the bird, though still in advance,

ROAD RUNNER
(*Geococcyx californianus*)
Lifesize.



quickly stopped and flew to the branches of a low tree, apparently in an exhausted condition. Though related to the cuckoos, it resembles the pheasants because of its terrestrial habits.

The Road-runner usually nests in rather low trees or bushes and occasionally in the hollow of a dead stump. The nest is usually placed where it is well concealed from view, and it has been known to appropriate the nests of other birds. The body of the nest is usually constructed with small sticks or twigs and lined with finer twigs and dry grasses. The lining may also consist of dung, feathers, bark fiber, fragments of snake skins and other fine materials that may be found in the vicinity. Sometimes the lining is entirely absent and the eggs are laid on the foundation of sticks.

"The parents are devoted to their young, and when incubation is well advanced the bird will sometimes allow itself to be caught on the nest rather than abandon its eggs. The nestlings, when disturbed, make a clicking noise with their bills. When taken young, they are readily tamed, soon becoming attached to their captor, showing a great deal of sagacity and making amusing and interesting pets."

Food: Lizards, swifts and other small reptiles.

Maryland Yellowthroats

By Melicent Eno Humason

There's a wee bit copse of slender brown-toned birches on the eastern side of a dark pine grove, and the southern side of a brier-hemmed marsh, and that's the playground of the prettiest pair of warblers—no, not the prettiest, but the quaintest, cutest, perhaps the most approachable pair—in the whole kingdom.

"Whitseka, whitseka, whitseka," chirrups the male, teetering recklessly on a low springing bough, and constantly interrupting his song by sudden twists of his surprisingly supple neck, as he dives for insects complacently crawling on the underpart of his perch.

Always masked is he—his would-be disguise, intensely black—stretched tight across his eyes. Silly fellow! He thinks to conceal his own identity by the very thing which proves it!

His simple, housewifely little mate wears none. Her quiet ways are enough of protection for her.

Their two little bodies—saffron below, olive above—darting about the tiny leaved saplings, bring one more significance of joy into the world.

Some day, soon, I shall hope to find, in the big, luxuriant leaves of a cool skunk cabbage nearby—their nest; and I shall come with offerings of devotion—the love in my heart—to lay at the threshold.

Double-Crested Cormorant (*Phalacrocorax auritus*)

By Lynds Jones

Length: 30 to 32 inches.

The Double-crested Cormorant, a pair of which is shown in our illustration with their nest and eggs, is the common Cormorant of the eastern and middle United States. In that region, however, it is rarely seen excepting during its migrations, or as a winter visitant in the southern states as far north as southern Illinois and Virginia. In exceptional seasons it has, however, been known to pass the winter as far north as the Bay of Fundy. It nests from the states of Dakota and Minnesota and the region of the Great Lakes northward.

The habits of the double-crested species are similar to those of the other Cormorants. Fish form its principal article of food. These it obtains by diving and pursuing them under water. It is a strong and rapid swimmer, as well as an expert diver. To escape an enemy it will remain under water for a long period and swim a considerable distance. In migrating, the birds form in a long, narrow line and fly very high, their flight resembling that of the larger ducks. Though they fly rapidly, there is a constant and labored flapping of the wings, and if they sail, it is only for a short distance.

The double-crested cormorant is somewhat erratic in its choice of a nesting site. Some pairs seem to prefer the vicinity of inland waters—large lakes or rivers—while other pairs only breed on rocky islands in the sea. The nest may be built in a crevice, on a ledge of a sea-washed cliff or it may be placed in a secluded place on the beach of a lake. Sometimes it is constructed in a low bush and not infrequently in a tree on a river bank. The materials used are coarse sticks, twigs and grass. When on the seashore the nest is frequently built entirely of marine herbage.

The double-crested cormorants “may often be seen sitting on snags or on rocks; but they are so shy they cannot be approached in a boat, although in flying they often pass very near the hunter, and thus afford an opportunity for a shot. In winter they associate in small numbers with the more marine species.”



DOUBLE-CRESTED CORMORANT.

(*Phalacrocorax dilophus*)

1 Life-size

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Russet-Backed Thrush (*Hylocichla ustulata*)

Length: $7\frac{1}{4}$ inches.

Among thrushes having the top of head and tail nearly the same color as the back, this one is distinguished by its tawny eye-ring and cheeks. The Pacific coast subspecies is russet brown above, while the other subspecies is the olive-backed thrush. The remarks below apply to the species as a whole.

Range.—Breeds in the forested parts of Alaska and Canada and south of California, Colorado, Michigan, New York, West Virginia (mountains), and Maine; winters from Mexico to South America.

Habits and Economic Status.—This is one of a small group of thrushes the members of which are by many ranked first among American songbirds. The several members resemble one another in size, plumage, and habits. While this thrush is very fond of fruit, its partiality for the neighborhood of streams keeps it from frequenting orchards far from water. It is most troublesome during the cherry season, when the young are in the nest. From this it might be inferred that the young are fed on fruit, but such is not the case. The adults eat fruit, but the nestlings, as usual, are fed mostly upon insects. Beetles constitute the largest item of animal food, and ants come next. Many caterpillars also are eaten. The great bulk of vegetable food consists of fruit, of which two-fifths is of cultivated varieties. Where these birds live in or near gardens or orchards, they may do considerable damage, but they are too valuable as insect destroyers to be killed if the fruit can be protected in any other way.

Black Flycatcher; Phainopepla (*Phainopepla nitens*)

Length, about $7\frac{1}{2}$ inches. The glossy black color and marked crest of the male, and the brownish gray of the female, also crested, distinguish this species.

Range: Breeds from central California, Nevada, Utah, and southwestern Texas southward; winters from southern California southward.

Though a distant relative of the cedar bird, the phainopepla differs markedly from that species both in appearance and habits. It is known to few, for it lives chiefly in the desert country of the southwest, though it is not wholly a stranger in the parks and gardens of that region. When flying, the white wing-patch becomes conspicuous and distinguishes the bird from all others. In the fall it is not unusual to find it in loose flocks the members of which are drawn temporarily together perhaps by the abundance of some favorite food. Like the cedar bird, it is essentially a berry eater, and in California sometimes makes free of the cherry crop. Its chief dependence, however, is the mistletoe, the mucilaginous berries of which delight it, as also do those of the juniper and pepper. Its partiality for mistletoe is probably the bird's worst trait, as it distributes the seeds of this pernicious parasite to the detriment of many fine oaks and sycamores. It eats many insects, principally ants, and has the habit of perching on a tall shrub, from which it sallies forth after flying insects, thus simulating a flycatcher. It is this habit which has given the bird its common name. The phainopepla has a variety of call notes and a very pleasant song.

King Eider (*Somateria spectabilis*)

Range.—Breeds along coast of northern Siberia and Arctic coast of America from Icy Cape east to Melville Island, Wellington Channel, northern Greenland, northwestern Hudson Bay, and northern Ungava; winters on Pacific coast from Aleutian Islands to Kodiak Island, in the interior rarely to the Great Lakes, and from southern Greenland and Gulf of St. Lawrence south regularly to Long Island.

The King Eider is a resident of Arctic realms, and visits the Great Lakes and our North Atlantic coast only in winter. At Point Barrow, on the Arctic coast, Murdock found this the most abundant bird, but even there it occurred chiefly as a migrant. The King Eider is almost as much at home in the water as a fish, and is able to keep to the open sea during the severest winter weather. In fact, probably the bulk of the species never migrate at all, or only move south a sufficient distance to reach permanent open water. The bird feeds largely upon mussels, and as the beds are in deep water all its natatorial powers are brought into play in diving for its daily fare. It has actually been taken in the gill nets of fishermen in more than 150 feet of water, as Eaton states, a fact which sufficiently attests its skill and hardihood, more particularly as the water at this season is icy cold.

Like its relatives, it nests among rocks and bushes. The eiders are not so prolific as many of our smaller ducks, and this one commonly lays only five or six eggs. The King Eider is one of the species the Icelanders depend on to furnish the harvest of down which is one of the important crops gathered by these northern people. The Icelanders are not the only ones who are dependent on this and other eiders for the necessities of life, for as Nelson tells us, "the skins of all the eiders, but especially of this species and the Pacific Eider, are used in making clothing by the Alaskan Eskimo, and the skin of the female, split down the back, with head, legs, and wings removed, is a very common article of footwear. It is used inside of the sealskin boots, and is very comfortable in winter."

The Little Brown Wren

The little brown wren has the brightest of eyes...
And a foot of a very diminutive size;
Her tail is as trig as the sail of a ship;
She's demure, thought she walks with a hop and skip;
And her voice—but a flute were more fit than a pen,
To tell of the voice of the little brown wren.

—Clinton Holland.

Golden Plover (*Charadrius dominicus dominicus*)

Range.—Breeds from Kotzebue Sound along the Arctic coast to mouth of Mackenzie, and from Melville Island, Wellington Channel, and Melville Peninsula south to northwestern Hudson Bay; winters on the pampas of Brazil and Argentina.

At one season or another the golden plover occurs over practically all of the United States and formerly its numbers were enormous. The migrations of this plover are unique among shore-birds. Under ordinary circumstances, the route the bird follows to its Argentine wintering grounds protects it completely, since when it leaves Labrador it boldly strikes across the ocean and, unless deflected by storms, apparently does not fold its wings until it reaches the South American Continent. So long a flight without resting may seem impossible for a bird as small as this plover. We know, however, that a close relative, the Pacific golden plover, flies from Alaska to the Hawaiian Archipelago, a distance of quite 2,000 miles. While the Atlantic species might stop to rest if it would, the Pacific coast species has no stopping place between its starting point and its destination. Probably, as Cooke surmises, from food consideration the Atlantic coast species returns in spring by an all-land route, and passes up the Mississippi Valley in great numbers. Though protected in fall from sportsmen by the route it follows, spring shooting in the Mississippi Valley has depleted the ranks of this plover to a pitiful remnant of its former numbers. The time has indeed long passed when a party of sportsmen, however large, can kill forty-eight thousand plover in a day, as Audubon states was done near New Orleans in 1821, and now the question to be solved is whether protection during its spring migration comes too late to save the species.

The Echo in the Heart

It's little I can tell
About the birds in books;
And yet I know them well,
By their music and their looks.
When May comes down the lane,
Her airy lovers throng
To welcome her with song,
And follow in her train;
Each minstrel weaves his part
In that wild-flowery strain,
And I know them all again
By their echo in my heart.

—Henry Van Dyke.

The Cassowary (*Casuarius galeatus*)

By J. G. Wood

Length: About 45 inches.

A large bird of the genus *Casuarius*, found in the East Indies. It is smaller and stouter than the ostrich. Its head is armed with a kind of helmet of horny substance, consisting of plates overlapping each other, and it has a group of long sharp spines on each wing which are used as defensive organs. It is a shy bird and runs with great rapidity.

The plumage of the body is very hairlike, being composed of long and almost naked shafts, two springing from the same tube, and one always being longer than the other. At the roots of the shafts there is a small tuft of delicate down, sufficiently thick to supply a warm and soft inner garment, but yet so small as to be hidden by the long hairlike plumage. Even the tail is furnished with the same curious covering and the wings are clothed after a similar manner with the exception of five black, stiff, strong, pointed quills, very like the large quills of the porcupine, and being of different lengths, the largest not exceeding one foot, and generally being much battered about the point. When stripped of its feathers, the whole wing extends only some three inches in length, and is evidently a mere indication of the limb.

The food of this bird in a wild state consists of herbage and various fruits, and in captivity it is fed on bran, apples, carrots and similar substances, and is said to drink nearly half a gallon of water per diem.

The robin, the forerunner of the Spring,
The bluebird with his jocund caroling,
The restless swallows building in the eaves,
The golden buttercups, the grass, the leaves,
The lilacs tossing in the winds of May,
All welcome this majestic holiday.

Longfellow.



FROM COL. CHI. ACAD. SCIENCES.

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CASSOWARY.
(Casuarius galeatus).
½ Life-size.

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AMERICAN COLORTYPE CO., CHI. & N. Y.

Labrador Duck (*Camptorhynchus labradorius*)

Range.—Formerly, northern Atlantic coasts; supposed to have bred in Labrador; wintered from Nova Scotia south to New Jersey.

The Labrador Duck's history is shrouded in mystery. It is now known to be extinct but of the causes of its disappearance we know little or nothing. Occupying as it did such a restricted range, the bird was probably never abundant, at least in historic times. Many years ago George N. Lawrence told me that in his recollection, somewhere probably about 1850, it was by no means uncommon in Fulton Market, and no one at that time appears to have suspected that the bird was in any particular danger of extinction. Apparently its habits were those of a sea duck, and as it could have possessed no great value for the table there would seem to have been no particular incentive for its pursuit. We know so little about the bird that speculation as to the cause of its extinction is useless but, as suggested by Forbush, the slaughter of waterfowl on the Labrador coast in the eighteenth century may have had much to do with it. The lesson to be drawn from its fate is that if a game bird like the Labrador Duck can become extinct in historic times from no assignable cause we should be doubly careful not to reduce the numbers of any of our valuable game birds to a point which threatens their future, since when reduced beyond certain limits, the precise limits being as yet unknown, recovery seems to be impossible, as witness the history of the passenger pigeon and the Eskimo curlew.

So far as known, the last Labrador Duck seen alive by man was taken at Grand Menan on the Maine coast in 1871. Fortunately, some forty-odd specimens are known to be in museums and in private collections.

Our Comrade the Robin

By Joseph Grinnell

On account of its generous distribution, and the affection for the bird in the heart of Young America and England alike, the robin shall be given first place among the singing birds. He is the "Little Wanderer"—as the name signifies—the "Robin-son Crusoe" of almost every clime and race.

True, he may be a warbler instead of a thrush in the Old World; but what does that signify? To whatever class or family he may belong by right of birth and legend, the bird of the red breast is the bird of the human breast.

It is impossible to study the early history of birds in any language and not stumble upon legend and superstition. And the more we read of these the more we come to delight in them. There may not be a bit of truth in the matter, but there is fascination. It is like delving among the dust and cobwebs of an old attic. The more dust and cobwebs, the more fun in coming upon things one never went in quest of.

Of course superstition has its objections; but when the robin is the point at issue, we may waive objections and go on our merry ways satisfied that the oldest and clearest head in the family will concur.

Legends concerning our comrade the robin are full of tender thought of him. They have kept his memory green through the rain and shine of centuries, even going so far as to embalm him after death, as will be seen.

It is well-nigh impossible to give the earliest date in which the robin is mentioned as a "sacred bird." Certain it is that he ranks with characters of "ye olden time," for myth and superstition enshrined him. The literature of many tongues has preserved him. Poetry and sculpture have embodied him and given him place among the gods and winged beings that inhabit the "neighbor world." Did he not scorch his original gray breast by taking his daily drop of water to lost souls? Did he not stain it by pressing his faithful heart against the crown of thorns? Or, did he not burn it in the Far North when he fanned back into flame the dying embers which the polar bear thought to have trampled out in his wrath that white men invaded his shores? Was he not always the "pious bird?"—though it must be confessed that his beak alone seemed to be possessed of religious tendencies. Was he not the original church sexton who covered the dead, with impartial beak, from eye of sun and man, piling high and dry the woodland leaves about them? The wandering minstrel, the orphan child, or the knight of kingly robe, each shared his sweet charity.

This superstition of the robin's art in caring for the dead runs through many of the old poets, Drayton, Grahame, Hood, Herrick, and others. Strict justice in the matter would have divided the praise of him with the charitable night winds, for it was they more than he who "covered friendless bodies." The sylvan shades of the Old World being then more comprehensive than now, unburied men, from any cause, found their last resting-place in the lap of the forest, sleeping wherever

they fell, since no laws of "decent burial" governed the wilds. The night winds, true to their instincts then as now, swirled the fallen leaves about any object in their way, in the fashion of a burial shroud. As a matter of course, credit was given to the robin, whose voracious appetite always led him to plunder litter of any sort in search of food. Up bright and early, as is still his habit (since at this hour he is able to waylay the belated night insect), the robin was spied bestirring the forest leaves, and unbeknown to himself was sainted for all time.

And his duties were not confined to those of sexton alone, for, according to good witnesses, he became both sculptor and clergyman—stripping, as they were supposed to do, the foliage from the trees on which to write their elegies, and so leaving the uncovered trunks as monumental shafts.

In Pilgrim's Progress, Christiana is said to have been greatly astonished at seeing a robin with a spider in its beak. Said she, "What a disparagement it is to such a little, pretty bird as the robin-redbreast is, he being also a bird above many, that loveth to maintain a kind of sociableness with man; I had thought they had lived on crumbs of bread—I like him worse than I did."

And the wordy-wise Interpreter, to clinch a moral lesson in the mind of the religious woman, explained how the robins "when they are by themselves, catch and gobble up spiders: they can change their diet (like the ungodly hypocrite), drink iniquity, and swallow down sin like water." And so, obedient to her spiritual adviser, Christiana liked the robin "worse than she did." Poor soul; she should have observed for herself that for a robin to gobble up a spider is no "iniquity." Did she think that crumbs grew on bushes, ready made for early breakfast, or that the under side of woodland leaves was buttered to order?

Spiders the robin must have, else how could he obtain the strings for his harp? Wherever the spider spins her thread, there is her devotee, the robin. He may not be seen to pluck and stretch the threads, but the source of them he loves, and he says his best grace above this dainty of his board. Our pet robin was known to stand patiently by the crack of a door, asking that it be opened wider, as, in his opinion, a spider was hiding behind it. He heard her stocking tread, as he hears also the slippered feet of the grub in the garden sod—provided the grubs have feet, which it is known they can do tolerably well without.

Sure it is the world over, be he thrush or warbler, the robin is partial to bread and butter; to bread thrice buttered if he can get it. Fat of any sort he craves. The more practical than sentimental believe that he uses it in the preparation of the "colors done in oil" with which he tints his breast. For lack of oil, therefore, where it is not provided by his friends, or discovered by himself, his breast is underdone in color, paling even to dusky hue; so that, would you have a redbreast of deepest dye, be liberal with his buttered bread.

And his yellow mouth! Ah, it is the color of spring butter when the dandelions are astir, oozing out, as it were, when he is very young, as if for suggestion to those who love him.

The historical wedding of Cock Robin to Jenny Wren was the result of anxiety on the part of mutual friends who would unite their favorite birds. The

"courtship," the "merry marriage," the "picnic dinner," and the rest of the tragedy are well described. Alas, for the death and burial of the robin-groom, who did not live to enjoy the bliss of wedded life as prearranged by his solicitous friends. But the affair went merry as a marriage-bell for a while, and was good until fortunes changed.

All the birds of the air combined to make the event a happy one, and they dined and they supped in elegant style.

"For each took a bumper
And drank to the pair;
Cock Robin the bridegroom,
And Jenny Wren the fair."

Just as the dinner things were being removed, and the bird guests were singing "fit to be heard a mile around," in stalked the Cuckoo, who it is presumed had not been invited to the wedding, and was angry at being slighted. He rudely began pulling the bride all about by her pretty clothes, which aroused the temper of the groom, naturally enough, as who could wonder? His best man, the Sparrow, went out and armed himself, his weapons being the bow and arrow, and took his usual steady aim to hit the intruder, but, like many another excited marksman, he missed his aim, and, oh, the pity of it! shot Cock Robin himself. (It was an easy way for the poet to dispose of the affair, as he knew very well a robin and a wren couldn't mate, in truth.)

Nor did the Sparrow deny his unintentional blunder when it came to the trial. There were witnesses in plenty; and Robin was given a splendid burial—Robin who had himself officiated at many a ceremony of the same sad sort.

It is a pathetic tale, as any one may see who reads it, and served the purpose of stimulating sympathy for the birds. We have forgiven the sparrow for his blunder, as will be seen later on; for in consequence of it, the birds were called up in line and made to *do something, thus distinguishing* themselves as no idlers.

The mating of Robin with Jenny Wren proved a failure, of course, so we have our dear "twa birds," the robins, as near alike as two peas, when the male is not singing and the female is not cuddling her nest. A trifle brighter of tint is the male (in North America), but the two combine, like any staid farmer and his wife, in getting a living out of the soil. Hand in hand, as it were, they wander about the country anywhere under the flag, at home wherever it rains; but returning to the same locality, with true homing instinct, as often as the springtime suggests the proper season for family affairs; completing these same affairs in time to look after their winter outfit of clothes. This last more on account of their annual shabby condition than by reason of the rigors of cold, for they change climate as often as health and happiness (including, of course, food) require.

True some penalties attach to this sudden and frequent change, but the robins accept whatever comes to them with a protest of song, returning good for evil, even when charged with stealing more fruit than the law allows. It is impossible to compare the good they do with any possible harm, since the insect harvest-time is always, and the robin's farming implements never grow rusty.

Always in the wake of the robins is the sharp-shinned hawk and many another winged enemy, for their migrations are followed by faithful foes who secrete themselves in the shadows. We deprived one of the desperadoes of his dinner before he had so much as tasted it, also of his pleasure in obtaining another, for we brought him down in the very act, and resented his victim only by prying apart the reluctantly dying claws.

But whatever may be said of hawks and such other hungry beings who lay no claim to a vegetable diet, their so-called cruelty should be overlooked, since it is impossible to draw the lines without affecting the robin himself. For see with what excusable greed he snatches at winged beings which happen to light for a rest in their flight, or draws the protesting earth-worm from its sunless corridors. It is a law of nature, and grace must provide absolution. So must also the bird-lover, supposing in his charitable heart that worms and flies delight in being made over into new and better loved individuals.

Would the bird-lover actually convert this redbreast from the error of his victual ways, he may do so by substituting cooked or raw food from his own table. The robin is an apt student of civilization, and adopts the ways of its reformers with relish. As to the statement that robins require a diet of worms to insure life and growth, we can say that we have raised a whole family on bread and milk alone with perfect success. True, we allowed them a bit of watermelon in melon season, but they used it more as a newfangled bath than as a food, actually rolling in it, and pasting their feathers together with the sticky juice. The farmer's orchard is the robin's own patch of ground, and he revels in its varied bounties. A pair of them know at a glance the very crotch in the apple-tree which grew three prongs on purpose for their nest. The extreme center, scooped to a thimble's capacity, suggests the initial post-hole for a proper foundation. The said post may be placed directly across it, but that does not change the idea. Above is the parting of the boughs, across whose inverted arches sticks alternate, and so on up. And atop of straws and leaves and sticks is the "loving cup" of clay, with its soft lining of vegetable fiber and grasses. What care the robins that little cover roofs them and their young? Are they not water birds by nature, and wind birds as well? (Our pet sat for hours at a time in hot weather emersed to his ears in the bath, and even sang low notes while he soaked.) Birds of spring freshets and June winds, they dote on the weather, and bring off their young ones as successfully as their neighbors. What if a nest be blown down now and then? The school-boy, in passing, puts it back in its place and sees that every birdling goes with it; while the old birds above him, shedding water like a goose, thank him for his pains.

The orchardist who plants a mulberry-tree in his apple rows, though he himself scorns the insipid sweetness of the fruit, ranks with any philanthropist in that he foresees the needs of a little soul which loves the society of man more than anything else in the world.

By the planting of the mulberry-tree he plants a thought in the breast of his little son. "I don't like mulberries, father. What makes you set out a mulberry-tree in an apple orchard?"

"For the robins, my son. Haven't you heard that luck follows the robins?"

"What is luck, father?"

"Luck, my son, is any good thing which people make for themselves and the folks they think about."

And the little boy sits down on a buttercup cushion and meditates on luck, while he watches the robins knocking at the doors of the soft-bodied larvæ, engaged in making luck for other folks. And the boy's own luck takes the right turn all on account of his father setting out a mulberry-tree.

Whole school-rooms full of children are known to be after the same sort of luck when they plant a tree on Arbor Day; a cherry-tree or mulberry-tree, or even an apple, in due time is sure to bring forth just the crotch to delight the heart of mother robin in June. Not that the robins do not select other places than apple-trees to nest in. An unusual place is quite as likely to charm them. Let a person interest himself a little in the robin's affairs and he will see startling results by the summer solstice. An old hat in the crotch of a tree, an inverted sunshade, or even a discarded scarecrow, terrible to behold, left over from last year and hidden in the foliage, one and all suggest possibilities to the robins.

Mud that is fresh and sweet is essential to a robin's nest. Stale, bad-smelling, sour mud isn't fit for use. Sweet, clay-like stuff is what they want. A pack of twigs made up loosely, soft grass and fiber, all delight the nest-builders, who are as sure to select a location near by, as they are sure to stay all summer near the farmer on account of the nearness of food.

Anywhere from four to thirty feet one may find the nests with little trouble, they are so bulky, all but the delicate inside of them, which is soft as down; nest-lining being next thing to nest-peopling—the toes of the little new people finding their first means of clinging to life by what is next to them. A well-woven lining gives young robins a delicious sense of safety, as they hold on tight—the instinct to hold on tight being about the first in any young thing, be it bird or human baby, except, perhaps, the instinct of holding its mouth open.

Some people who do not watch closely suppose the young robin who holds its mouth open the longest and widest gets the most food. We are often mistaken in things. Mother robin understands the care of the young, though she never read a book about it in all her life. Think of her infant, of exactly eleven days, leaving the nest and getting about on its own legs, as indeed it does, more to the astonishment of its own little self than anybody else. And before the baby knows it, he is singing with all the rest,

"Cheer up; cheerily, cheerily, cheer up."

The very same song we heard him sing within the Arctic circle, far up to the snow line of the Jade Mountains, alternating his song with the eating of juniper berries.

But one might go on forever with the robin as he hops and skips and flies from the Atlantic to the Pacific, and from Alaska to Mexico and other parts; but one would never get to the end of loving him.

When poor robin at last meets with disaster and cannot pick himself up again, in short, is "gone to that world where birds are blest," the leaves shall remember

to cover him, while we imagine, with the poet who thought it not time and talent wasted to write an epitaph to the redbreast,

"Small notes wake from underground
Where now his tiny bones are laid.
No prowling cat with whiskered face
Approaches this sequestered place;
No school-boy with his willow bow
Shall aim at thee a treacherous blow."

But the funeral of even a robin is a sad event; so we will bring him back in the spring, for

"There's a call upon the housetop, an answer from the plain,
There's a warble in the sunshine, a twitter in the rain."

The Bluebird

Alexander Wilson

The pleasing manners and the sociable disposition of this little bird entitle him to particular notice. As one of the first messengers of spring, bringing the charming tidings to our very doors, he bears his own recommendation always along with him, and meets with a hearty welcome from everybody.

Through generally accounted a bird of passage, yet in Pennsylvania so early as the middle of February, if the weather be open, he usually makes his appearance about his own haunts—the barn, orchard and fenceposts. Storms and deep snows sometimes succeeding, he disappears for a time, but about the middle of March is again seen accompanied by his mate, visiting the box in the garden or the hole in the old apple-tree, the cradle of some generations of his ancestors.

The preliminaries being settled and the spot fixed upon, the Bluebirds begin to clean out from the old nest the rubbish of the former year, and to prepare for the reception of their future offspring.

The female lays five, and sometimes six, eggs of a pale blue color, and raises two and sometimes three broods in a season, the male taking the youngest under his particular care while the female is again sitting. Their principal food consists of insects, particularly large beetles and others that lurk among old dead and decaying trees, as well as upon the ground. Spiders are also a favorite repast with them. In the fall they occasionally regale themselves on the berries of the sour gum and, as winter approaches, on those of the red cedar, and on the fruit of a rough and hairy vine that runs up and cleaves fast to the trunks of trees. Ripe persimmons are another of their favorite dishes, and among other fruits and seeds these are found in their stomachs during the autumn months.

The usual spring and summer song of the Bluebird is a soft, agreeable, and

oft-repeated warble, uttered with open quivering wings, and is extremely pleasing. In his motions and general character he has great resemblance to the Robin Redbreast of Great Britain. Like the latter bird he is known to almost every child, and shows as much confidence in man by associating with him in summer as the Redbreast by his familiarity in winter. He is also of a mild and peaceful disposition, seldom fighting or quarreling with other birds. His society is courted by the inhabitants of the country, and few farmers neglect to provide for him, in some suitable place, a snug little summer-house, ready fitted and rent free. For this he more than repays them by the cheerfulness of his song, and the multitude of injurious insects he daily destroys.

Toward fall, that is, in the month of October, his song changes to a single plaintive note, as he passes over the yellow, many-colored woods, and its melancholy air recalls to our minds the approaching decay of the face of nature. Even after the trees are stripped of their leaves he still lingers over his native fields, as if loth to leave them. About the middle or end of November few if any Bluebirds are seen; but with every return of mild and open weather we hear their plaintive note amidst the fields, or in the air, seeming to deplore the devastations of winter. Indeed the Bluebird appears scarcely ever totally to forsake us, but to follow fair weather through all its journeyings till the return of spring.

During the summer the Bluebird is found throughout the eastern United States and as far west as the Rocky Mountains; it ranges as far north as Nova Scotia, Ontario and Manitoba. In winter it migrates in flocks from the northern regions, flying to Cuba and the southern States, where it may be found all winter. As far north as the latitude of New York a few are generally present throughout the winter.

“The Sparrow”

By Thomas Guinan

“Cock of the walk” are you, the eaves trough,
And the gutter.
You cannot sing a single note of song,
You only sputter.
Cantankerous and savage, a combative
Little cuss.
With a chip upon your shoulder, ever ready,
For a fuss.
Without regard for song birds or their right,
To live on earth, you rob their nests,
Just for spite.
All through winter long, in cold,
Snow and sleet,
You have to wallow, day after day, with
Frozen feet,
While Robbins, Swallows, Blue-birds, and the
Meadow Larks,
Are in some warm clime in lovely parks,
And yet I cannot help admire your
Everlasting grit.
Your courage and a little bunch of wrath are you,
And, worst of all,
I sometimes almost think that Satan
Marked your fall.
With satisfaction that you had to take a tumble,
And for all time to come be the bird
Most humble.
Aristocratic you can never be
Among your kind.
When all the nabobs go south you
Are left behind.
The Bluejay, though a thief, he has got
The best of you,
In looks, at least, dressed in his dapper
Suit of blue.
With graceful flight he soars where purest
Air is found,
While you, in mud and mire content,
Hop on the ground.
Persistence in claiming
“You are it.”

I love the feathered tribe entire, though it is
 Least for you,
Thou little outlaw; not for what you are, but
 What you do.

The Everglade Kite (*Rostrhamus sociabilis*)

By Gerard Alan Abbott

Length: About 18 inches.

The Everglade Kite, or Snail Hawk, as it is sometimes called, has a very small range within the borders of the United States, where it is limited to the swamps and marshes of southern Florida. It also frequents eastern Mexico, Central America, Cuba, and the eastern portion of South America as far southward as the Argentine Republic.

Its habits are very interesting. Peaceable and sociable at all times, other birds do not fear them.

An authority, writing of these birds in Florida, says: "Their favorite nesting sites are swamps overgrown with low willow bushes, the nests usually being placed about four feet from the ground. They frequent the borders of open ponds and feed their young entirely on snails. According to my observations, the female does not assist in the building of the nest. I have watched these birds for hours. She sits in the immediate vicinity of the nest and watches while the male builds it. The male will bring a few twigs and alternate this work at the same time by supplying his mate with snails until the structure is completed. They feed and care for their young longer than any other birds I know of, until you can scarcely distinguish them from the adults."

The nest is a flat structure, the cavity being rarely more than two or three inches in depth, and the whole structure is about twelve or sixteen inches in diameter and about one-half as high. It is usually placed in low shrubs or fastened to the rank growth of saw grass, sufficiently low to be secure from observation. The materials used in its construction are generally dry twigs and sticks loosely woven together. The cavity may be bare or lined with small vines, leaves, or dry saw grass.

"Its food, as far as known, consists exclusively of fresh-water univalve mollusks, which it finds among the water plants at the edges of shallow lakes and rivers or the overflowed portions of the Everglades."



EVERGLADE KITE.
(*Rostrhamus sociabilis*).
Life-size

RIGHT 602, BY A. W. MURRAY, CHICAGO.

The Beginning of Housekeeping and Where to Look For the Nests

By Clara Kern Bayliss

Toward mating time in the spring male birds assume their most striking garb and most charming song, and "show off" in many ways before the females. The Flicker, being a poor singer but a great drummer, tatoos his love call on the metal cap of a chimney or any sounding-board he can find. The Partridge struts on a log, inflates his body for a drum, and beats it with his wings. The Blue Jay bounces himself up and down on a limb and cries "Tee-dle-dum, A-tee-dle-dum." Other birds who are not gifted musicians have very singular and surprising ways of charming their mates. The dignified Woodcock and the quiet little Horned Lark take a honeymoon journey alone, flying up and up in a spiral and then plunging headlong down. Sandhill cranes dance a minuet. Ostriches tread a stately measure and end in a mad whirl which makes them so dizzy that they fall to the ground and sometimes break their legs.

Some males help to build the nests; some help incubate; while others merely sit by and sing. Wrens and Shrikes decorate the rim of the nest and conceal the young with upright, in curving feathers. Hummingbirds ornament with lichens and mosses. The Blue Grosbeak uses pieces of snakeskin. Robins, Orioles, and some Flycatchers will use yarns and cloth. The fly-catching Chebec "irons" the outside of its nest by standing inside and rubbing the outside with its head, first one side and then the other, like the stropping of a razor.

Some flesh-eating birds, as Hawks and Owls, begin nests in February and March; but in central Illinois few kinds begin housekeeping before the first of April. We have three records of Robins that have deposited their eggs by the 18th of April. On May 5th, 1915, in Macomb, three full grown Robins left the nest in which the clutch must have been complete by April 9th. The latest date on which we have seen a Robin brooding was August 4th, 1900. The Flicker, Meadow Lark, Cardinal Blue Jay, Bronze Grackle, Mourning Dove, Phoebe, Bluebird and Tufted Titmouse nest by the middle of April. The Brown Thrasher, Catbird, Towhee and Rose-breasted Grosbeak build about the first of May. The Yellow Warbler and Cedar Waxwing prefer June, the Cuckoo nests in July; while the Goldfinch comes last of all, in September. From the middle of May to the middle of June there are more "going" nests than at any other time.

On ground near lakes: Loon, White Pelican, Cormorant, Herring Gull, Mallard Duck, Kildeer.

On ground in woods: Whippoorwill, Mourning Dove, Quail, Woodcock, Nighthawk, Song Sparrow, Wilson Thrush or Veery, Hermit Thrush, and many of the Warblers.

On ground in fields: Meadow Lark, Quail, Thrasher occasionally, Teal, Wild Goose, Grouse, Prairie Chicken, Horned Lark, Vesper, Tree, Field, Grasshopper and other Sparrows, Junco, Oven Bird, Maryland Yellow-throat, and Dickcissel.

In holes in trees and posts: Wood Duck, Flicker, Woodpeckers, Wren, Bluebird, Titmouse, Hoot Owl, several Flycatchers, Nuthatch.

Evergreen tree: Bronzed Grackle, Kinglet, several Warblers.

Platform of sticks in tree: Wood Ibis, M. Dove, Cuckoo.

Floating raft nest: Grebes.

Platform or among weeds in swamp: Red-wing Blackbird, Rail, Crane, Bittern, Marsh Wren.

In high trees along rivers: Heron, Goshawk, Great Horned Owl.

On horizontal branch: Blue Jay, Oriole, Grackle, Tanager, Goldfinch, Waxwing, Vireo.

In burrowed banks: Kingfisher, Bank Swallow.

In clumps of shrubbery: Brown Thrasher, Catbird, M. Dove, Song Sparrow, Cardinal, Rose-breasted Grosbeak, Shrike, Warblers.

Some of these birds build in places besides the ones mentioned. The Robin, for instance, nests in all kinds of places, tree, vine, ledge of a house or anywhere, and at any elevation from $2\frac{1}{2}$ to 40 feet. We have seen one try repeatedly to make a nest stick on a sloping water spout. And how the Robin and Thrasher must miss the old rail fences! The Robin makes no effort at concealment. He will have a score of white cords dangling from his nest in a vine, or a strip of muslin a yard long calling attention to his home in a tree. Eggs, usually 4; blue.

The Catbird, too, will begin by laying a dangling piece of cloth in the crotch of the tree for foundation to his house. Eggs, 3-5; green.

The Brown Thrasher likes a wild crab thicket. Eggs, 3-4; pale greenish-white evenly peppered with brown.

Wren's eggs, 4-7; delicate terra-cotta-white, finely peppered.

Bluebird's eggs, 3-6; limpid white, faintly tinted with blue, like blue water. Three nests in 1916 had three each. One bird must have alighted skilfully, for the opening was on the under side of a post used as prop to a fence post.

The two eggs of the Whippoorwill and the Nighthawk are speckled and blotched and hard to distinguish from the pebbles on the ground—or on the flat roof where the latter bird sometimes deposits hers.

With her bill, the Baltimore Oriole weaves a long sack suspended from a high outer limb, using thread, hair, grass, rags and paper, all of dull color. A lady of our acquaintance put out yellow, green and gray yarns, and the Oriole took only the gray. A farmer tells me he has seen one test binding twine with bill and claw, and, if it broke, discard it.

The Vireo and Orchard Oriole, also, make pensile nests, but they attach them so closely to the under side of branching twigs that you might think they rested on the twigs. Eggs of the former, 3-4, pure white sprinkled with chocolate; of the latter 4-6, bluish, with specks and zigzag lines of brown.

Out of hemp and grass the Yellow Warbler makes a dainty cup about the size of an unshucked walnut. Like the two last mentioned it builds out on the smaller branches. Eggs, 4-5, greenish, spotted with reddish-brown and wreathed around the larger end with black and lilac.

The Mourning Dove cradles its young on the bare ground or on a rough platform of sticks in a bush. Eggs 2, pure white, though Mr. P. W. Smith of Greenville, Ill., records sets of three and four.

The Cuckoo makes a nest but little better than the Mourning Dove's. Eggs 3-4, almost green, said sometimes to be laid several days apart so that there are young in various stages of development.

The beautiful, noisy Golden-winged Woodpecker, or Flicker, pecks a home in a dead tree or post, meantime uttering notes "like the whetting of a scythe." Eggs 6-10, white. There is a record of a female, robbed of one each day, that laid 37, resting fourteen days in the meantime; and of another laying 71 in 73 days.

The Meadow Lark's nest is a great satisfaction because you always know just where to find it—*after* you have found it. It is always on the ground, always in deep grass, always under a tussock of grass, always with a cute little path no longer than the owner's body, in front of the door. It may be very near to your house. One pair last summer raised a brood of four between two city houses; another, within five feet of a sidewalk where people and dogs were continually passing; still another pair in an isolated meadow deserted their pretty nest with six beautiful white eggs, and there it remained, undisturbed, for several weeks.

The Quail lays 10-20 white eggs so pointed that they roll in a circle and cannot be blown out of the slight depression.

The only nest of a Goldfinch we have ever seen to know it, was placed five feet high in the branches of a tall Canada thistle. Four bluish-white eggs had hatched, but one bird died and dried in the nest. The others took wing on September 21st.

You may look for colonies of Red-winged Blackbirds' nests in swampy places and as low as 18 inches from the ground. There will usually be 4 bluish-white eggs with black hieroglyphs at the larger end. Sometimes the nests are in bushes near the water; but you can always tell when you are nearing them by the way the old ones fly and cry high overhead.

You will look in vain for the Cowbird's nest for he has none. The female spies upon the homemaking of other birds and deposits 1, 2, or 3 white, chocolate-spotted eggs in the other's nest where they are reared to the death or detriment of the foster mother's young. It is strange that a bird can be thus imposed upon. The Yellow Warbler refuses to incubate the alien egg and builds another nest on top of the first even when, by doing so, she has to shut out one or more of her own eggs. A two-story nest of this kind is in the Western Normal, and there is a four-story one in the Field Museum of Chicago.

The Bewick Wren (*Thryomanes bewickii*)

By W. F. Henninger

Description.—*Adults*:—Above, dark olive-brown, or rufous-brown with an olive tinge; the rump with downy, concealed, white spots; wings showing at least traces of dusky barring—sometimes complete on tertials; tail blackish or concealed portions, distinctly and finely barred with blackish on exposed portions; the outer pairs of feathers white-tipped and showing white barring, incipient or complete on terminal third; a narrow white superciliary stripe, and an indistinct dark stripe through eye; under parts grayish white, dark tinged on sides and flanks; under tail-coverts heavily barred with dusky; bill dark brown above, lighter below; culmen slightly decurved. Length 5.00-5.50 (127.-139.7); wing 2.08 (52.8); tail 2.01 (51.1); bill .53 (13.5).

Recognition Marks.—Warbler size; known from House Wren by superciliary stripe, and whiter under parts, mostly unbarred; more deliberate in its movements.

Nest, anywhere in holes or crannies about buildings, posts, brush-heaps, etc.; of twigs, lined with grasses and miscellaneous soft materials; not distinguishable from those of *T. aedon*. Eggs, 4-6, sometimes 7, white speckled—usually not so heavily as in *T. aedon*—with cinnamon or rufous-brown, and purplish, uniformly, or chiefly in wreath near larger end. Average size, .66x.48 (16.8x12.2).

General Range.—Eastern United States, west to the eastern border of the Plains and eastern Texas; rare east of the Alleghanies north of Maryland and Delaware; north irregularly in the Mississippi Valley to southern Minnesota Migratory only along the northern border of its range.

Bewick Wren today is *the* Wren of Southern Ohio. Since his arrival the House Wren has “left the country” and has been entirely replaced by this better songster and thriftier species. When the chilling blasts of February, 1899, howled over the Scioto Valley bottoms and crept into every ravine of the hills, the thermometer standing at 30 degrees below zero, when Goldfinches and Sparrows dropped out of the sky, exhausted and frozen, the cheerful voice of the Bewick Wren was loudly ringing from some favorite perch. How I had to envy him! While man and beast were seeking shelter from this cold, and the earth was groaning under its burden of snow, he, undaunted, gay and light-hearted, was singing in anticipation of the joyous springtime. And again when trees and flowers bloom, or when midsummer’s sun is blazing down in unabated fury, his song greets us at our home. Not a voluble merry chatter, like the House Wren’s, but clear, strong and cheery, easily heard for a quarter of a mile,—such is the song of Bewick’s Wren. Easily distinguished from the former he has the same teasing ways about him,—now peeping into some corner, now examining the woodpile, now crawling into a knot-hole of the smoke-house, creeping forth like a mouse at the next moment, whisking his erectly-carried tail, watching you carefully though fearlessly, he all of a sudden mounts some fence-posts, pours



BEWICK'S WREN.
(*Thryothorus bewickii*).
Life-size

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forth his proud metallic notes, drops down into the chicken yard, disappears in the pig pen, mockingly scolds at you, sings again, and is willing to keep this game up all day. We do not know which to admire more, his beautiful song or his confidence in man.

The height of these actions is reached at the mating season, for he is the bird that makes life sweet about the old log cabins, deserted woodpiles and half-destroyed orchards. Almost any place in the neighborhood of man is chosen for a nesting site. The arm-pit of an old coat, old tin and coffee cups, log cabin nooks and corners, often contain his nest. This is rather bulky, composed of sticks, grass, wool, horse and cow hairs, quail and chicken feathers, snake skins and other rubbish. From four to eleven eggs are found in it in April and again in June. They are white with various spots of lilac-gray and brown, and my observations lead me to the belief that the eggs of the older birds are more heavily spotted than those of the young ones, and the spots are also better distributed over the entire surface of the eggs, while those of younger birds show more minute spots, and these generally in a wreath around the blunt end of the egg. In about two weeks the eggs are hatched and a jolly crowd of youngsters soon joins the parents in their insect-hunt, and the next year we have the pleasure of hearing still oftener this bold, bright songster in his native haunts. May the Bewick Wren live and thrive forever in the rugged hills of southern Ohio, to bring joy and cheerfulness to the hearts of men!

The Robin's Counsel

By Millie Noel Long

Through a wilderness of doubt,
Fears within and foes without,
Comes the robins thrilling shout,
 “Cheer ye! cheer ye!
 Hear me! hear me!”

“I have traveled fast and far,
I have braved the storm-cloud’s power,
Met new dangers every hour,—
 Cheer ye! cheer ye!
 Hear ye! hear ye!”

“Kept by God’s almighty power,
Heeding duty every hour,
There’s no time to fret and glower,—
 Hear ye! hear ye!
 Cheer ye! cheer ye!”

The Cost of a Feather

By Mrs. Mary Smith Riley

In pleading the cause of my "little brother of the air" today, let me impress upon you that while my theme demands frankness of expression, the personal element does not enter in. I am absorbed in my subject. I am never conscious of this or that one wearing birds, and I pray you if you have them on your hat, forget them while I speak, and let no sensitive, inhospitable spirit obtrude itself between us. Let us reason together. You are more to me than many birds, and if you will grant to me the loving loyalty I bring to you we shall be closer together, and better friends when I am done than when I began. I am going to lean hard upon your woman's sympathy, for mine is not altogether a congenial task. My errand does not take me by the "primrose path."

I have come to plead for the preservation of something infinitely dearer to me and more precious to the world than birds: its ideals of womanhood! And truly, friends, they are in imminent peril. Woman has stood through the centuries as embodied tenderness and sympathy. Her "gentleness has made her great." Painting and sculpture represent her with the deep, maternal breast within which little children and helplessness everywhere hide their tearful faces. About her knees humanity clings for refuge from cruelty and wrong. She is Portia, when men's arguments fail in courts of justice, and the Bible hath it that only the Father above is "tenderer than a mother."

This is the world's reverent ideal of a woman; the pillow upon which its trust has slept undisturbed until the present.

And now, a cry is heard in our land, in all lands, that this ideal the world's cherished possession, is being slain by woman's own hand. A whisper has risen to a menace—I do not exaggerate—for do we not know that in this day, when the nations of the earth are meeting together in an effort to hasten the consummation of peace upon earth; in this which has been called the "Woman's Century," we are appealing to the courts of justice to protect one of the most innocent, beautiful and useful of His creations, against the cruel vanity of woman, and, women of the Federation, unless you, and I, and all good women use our influence against this fashion, the danger is imminent that ours will be a birdless world! From seashore and forest and field the wail is swelling that where once there were thousands upon thousands of useful ornamental birds, some localities have been entirely depopulated. Where once the islands about Florida were white with the beautiful egrets, one is now rarely seen. A picture on exhibition in New York by the great painter, George Inness, represents a forest interior in Florida with a solitary egret; a prophecy of no light import.

The press, always the champion of the helpless and oppressed, pronounces the wearing of birds "degrading" and declares that women can no longer plead ignorance, since this alarm has sounded through the civilized world. The pulpit expresses amaze that women, supposed to be more tender than men, will allow cruelties simply fiendish to be carried on at the beck of fashion. I quote an

eminent clergyman, who declares that "if they understand what misery in the bird realm this costs, the world must lose its respect for them." These are bold words, dear friends. Do you wonder I say the world's ideals of women are in grave peril?

I have referred to the London clergyman who thus addressed his congregation. "Some of you, my friends, followers of the gentle Christ, come to worship wearing aigrette plumes. Do you realize that this aigrette is called the 'maternity plume' because it only grows on the bird at the time of nesting, and to obtain one such feather involves not only the cruel death of the beautiful mother heron, but the whole nestful of newly born birds? What a price to pay! What a travesty upon religion to stand and sing 'O, all ye fowls of the air ye the Lord, praise Him and magnify Him forever!"

Dear friends, how can we pray "Thy kingdom come, Thy will be done on earth as it is in heaven" when we are wearing an aigrette on our hat? Do we not know that we hinder the coming of His kingdom upon earth and the consummation of His will when we needlessly inflict pain? Is it His "will" that these snowy nuptial plumes shall be torn from the still living, quivering body for our so-called adornment? Was it His will that that good man and kind husband and father, Guy Bradley, who had been established warden over a little colony of these birds in Florida, that they might not be utterly lost to us, should be killed by these brutal plume hunters that we might possess these ornaments? His "will," who is "tenderer than a mother"? And can we doubt we are fostering the lower instincts of the men and boys who are murdering these innocents the world over for our sake? Is it not of such stuff that criminals are made?

And, friends, what of our husbands and sons, and their ideals of womanhood, and the risk we run of falling from our high place in their reverence? They understand now the brutal methods by which the aigrette is obtained, yet we wives and mothers dare to look into their faces with the satin breast of a tern or sea gull shading our unshamed eyes!

Do you remember how stirred with righteous indignation the souls of decent people were over the disgraceful scenes at the Long Island shooting matches about eight years ago, and how that little, sensitive-souled boy who witnessed the revolting pastime went into convulsions and became insane over the memory of the massacre of the doves?

"And this is the dove, whose progenetrix flew
Over world-whelming water the Earth to renew!
With crippled wing drooping, its beak shot away—
A crime, not at midnight, but done in full day.
And this is a land that Humanity peoples:
And whose heaven is hid by confusion of steeples!"

Our attitude toward the bird is against our American traditions, our national spirit, and our boasted ideas of liberty. North, South, East, West, our gates swing wide—too wide—to whosoever will enter. Here the stranger is admitted to full

familyship, his rights protected, his children educated, and the harvests of our fields are his to share, though he often applies the firebrand to his benefactor's house. Yet against our upright little "Citizen Bird," our neighbor and benefactor, an ornament and delight to our world, we are waging a crusade more unnatural and unjust than any the world has known since the days of Herod; and the "gentler sex" is waging it!

In all ages until now the bird has been loved and protected. The ancients revered them. Fable and song have immortalized them, little children regard them with ecstacy, and in all the world I have never heard of a person who did not love the birds. They enrich the imagery of the Book of Books, and we have chosen a bird as the symbol of the strength and liberty of our country. Upon our coins of silver and gold the eagle, whom the ancients named "the Bird of Jove," the monarch of the empyrean air, sits in proud power, and has come to be for us the "Bird of Freedom."

Yet even the quills of this majestic bird, whose symbolism should set it apart from common or profane associations by every American woman, is degraded to the frivolous use of a shopping hat, jauntily thrust through the ribbon band, stripped of its fine distinction—a graceless figure! No meaner uses should the plume of an eagle serve than to sign a patriotic people's declaration of independence, or adorn a hero's helmet!

In Cornwall there is an old superstition that to hurt or kill a robin or wren brought retribution in the shape of a friend's death. Let us encourage this superstition in America.

And is it not questionable, apart from prejudice or sentiment, whether dead birds do really adorn; whether it is really becoming to any woman "to wear like the savage the scalps of the slain?" We are not usually enamoured of the suggestion of death; and this stark little corpse out of which the beauty has been twisted, the staring bead eyes, the rumpled plumage, the poor little beak that will never again part in rapturous song; the wonderful wings we have robbed of their matchless grace of flight—are these lovely?

"We that never can make it
Yet dare to unmake it,
Dare take it and break it and throw it away."

If it were only bad for the complexion, or caused horrid lines and blemishes to wear these birds, there might then be an immediate remedy for this evil fashion; but the aigrette is beautiful and becoming in its airy grace, and so the massacre goes on! But I have yet to see a middle-aged woman to whom wings and quills are becoming or did not accentuate the lines and defects, and by middle-aged I mean fifty-five or sixty;; not being a newspaper reporter who calls fifty "aged."

I know all the soothing little emollients which we apply to our consciences when they hurt. I have heard again and again the specious arguments, and the weather-beaten subterfuges still stand.

"It is not a bit worse," we say, "to kill birds to wear for ornament than to eat as food; we kill the poor little lambs, and seals, and kids, and furry things; we should never kill a bird ourselves, of course, and we don't tell men to do it; but they are already dead when we buy them; some one else would purchase them if we didn't; besides we already had these aigrettes, and hate to throw them away; and anyway we think ours are not real aigrettes—just whalebone; most of the feathers women wear are from barnyard fowls; and don't you think all this talk about the cruelty is generally exaggerated? I don't believe all I read about it, and as for the men, who do all the killing, and some of it for mere pastime—well, they had better keep still!"

Friends, it is not exaggerated: the half has not been told, and the world refuses to "keep still."

Good taste and mere cold refinement should make us hesitate to provoke such criticism as the New York *Tribune*—one of numberless newspapers—pronounces, where it says: "For women to persist in the cruel and barbarous fashion in face of all the published facts is to enact a defiance, or so it must be interpreted."

Have you read, and did you shiver as we did over the action of the forestry committee of women in St. Louis, to whom the State Federation referred the Audubon pledge? Utterly blind to, and apparently ignorant of, the economic relation between the insect, the bird and the tree which it is supposed to be the object of a forestry committee to preserve, the secretary airily remarked: "I must refuse to subscribe in that sort of thing, because if I want to wear an aigrette I shall certainly do so, and my conscience won't hurt me a particle," and the chairman agreed that "we must refuse to advocate the pledge, for I intend to wear one of those very things on my hat"—and the newspaper that chronicled this decision added: "The club women of St. Louis will uphold the forestry committee in this action."

It is the manner of this decision, the effrontery, the defiance of public sentiment by women, that hurts most in this occurrence. I think if our "Recording Angel" has not grown too hardened to weep she must have shed tears over this record. I tell you I am acquainted with grief, but I have rarely experienced more poignant sadness and shame than when I read this. I felt, I say it in all reverence, some faint touch of the horror that the people of old experienced when darkness fell upon the land that day the Son of God was crucified. I felt that those St. Louis women were nailing the world's ideals upon a cross!

I turned with something like a sob of relief from that crucifixion scene of the forestry committee of St. Louis to the noble example of Mme. Lilli Lehman, the world-famed singer, who long ago began her humane battle for, and raised her beautiful voice in defense of the birds. She has come to even deny herself feather pillows out of a gentle tenderness for the birds. She reserves no sacrifice on their behalf.

Extreme, do you say? Perhaps, if we can carry tenderness too far in a world that needs it so much; but I would to God there were more such gentle

extremists to join in this holy war. The world need not fear for its beautiful ideals then, and the gain would be immeasurable. Lilli Lehman is a true artist, and it is the artist in her that protests against this barbarous fashion.

It is not out purpose to coldly compute the unspeakable economic value of the bird to our orchards and fields and gardens. It has been truly said, if women are not moved by the sentiment in this question, no other appeal would avail. Today, friends, let us exalt in their beauty and aesthetic charm these singing orchids that flutter among our forest trees! These winged jewels of sapphire, nothing in heaven above, or earth beneath, or the waters under the earth half so beautiful as this rare thing we call a bird, and which the daughters of Eve are using not to uplift but to debase!

Have you never said "thank you!" to a vesper-sparrow singing his pensive little evensong on a fence, or to a hermit thrush in some forest cathedral, when his heavenly note brought your soul to its knees, and the angel in you leaned out to adore?

And could you wear a bird on your hat after that service?

Dear friends, I thank you for your patience. It is for love of women that I speak. I know full well what impetus you can give to this pure reform, this womanly service, if you but will it so. Do not let the opportunity pass. Oh, you women of good and compassionate hearts! Let us yield to the better angel of our nature and rise to the entertainment of the thought that "the evil which we could prevent and do not, is in that degree our fault"; and let us make John Ruskin's declaration our own.

Clarke's Nutcracker (*Nucifroga columbiana*)

By Amos W. Butler

Clarke's Nutcracker, or Clarke's Crow, is smaller than our true crows but larger than the jays. It is a shy, cautious bird inhabiting the mountainous regions of the United States and Canada. Comparatively little has been written about the habits of this bird owing to its shyness and retiring disposition. Naturalists find it difficult to visit the breeding grounds while the birds are laying their eggs or rearing their young.

Their food consists almost entirely of pine seeds, which they dexterously extract from cones, hence the range of the birds from year to year varies, according to the abundance of pine cones. The female guards her eggs so closely that it is possible to remove the bird from her nest with the hand. Like the Canada jay and magpie, the nutcracker is possessed of great cunning, and is a restless, uneasy fellow.

In March and April when the snow is still deep on the mountain slopes, the nutcracker is constructing a warm nest in the densest part of some coniferous tree. In appearance the nest might readily be mistaken for that of a squirrel, being a substantial, warm structure in which the birds lay two to four eggs.



CLARKE'S NUTCRACKER.

(*Nucifraga columbiana*)

About $\frac{1}{6}$ Life-size.

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The California Woodpecker

He is a handsome bird, and if there were not so many of his species he would attract a great deal of attention. He has a bright red head, black and white body, and a needle-pointed tail. The tail supports him in a perpendicular position on the side of a tree while he is hammering, or rather, chiseling, a hole in its bark.

All woodpeckers can drive deep holes into trees or stumps, but the California woodpecker surpasses them all as a hole-digger; he not only digs the hole but he fills it up with a nut or an acorn.

While a great many other birds have the hole-digging instinct, there are few of them that possess the hole-filling instinct. The blue jays and the squirrels have a habit of accumulating supplies, and you may see them, almost any day in autumn, snatching the acorns from twigs and branches. The same instinct prompts this woodpecker to lay in his stores of acorns. Some people say that he never resorts to these supplies again, but just lays them up without a thought as to the future. But nature does not work blindly, but always with some wise purpose.

This bird can drill a hole in the very hardest wood, and at this business he is employed almost all the time. The holes are usually made in rows, at regular distances apart, about the size of an acorn. He has been known to surround a giant red-wood tree, over twenty feet in circumference, with rings of holes one above another, from the root to the topmost limb, for over 200 feet. I say "he" did it, but I mean, of course, generation after generation of them, for many, many years.

After he has got the hole to his liking, he flies off to the nearest oak tree and secures an acorn, which he brings to the storehouse tree and places in the little "safety deposit" he has made for it. It fits exactly, and so, inserting it sharp end first, he hits it repeatedly with his beak and drives it in to stay till needed.

So long as the woodpecker confines his harvesting to the acorns no one, except the Indians, who frequently store them up for winter food, will have anything to say. But he likes nuts as well, and a story is told of a family of woodpeckers that completely stripped a small grove of almond trees. The owner thought he would have a good crop, and when the time came to gather it, there was not a nut on any tree! One of the boys found an old oak partly decayed, and riddled with holes from top to bottom. In each hole was an almond! The tree was cut down, and the man secured several bushels of almonds, but the woodpeckers scolded him loudly.—F. A. Ober, St. Nicholas.

The Green Woodpecker (*Picus viridus*)

By W. Leon Dawson

Nature has appointed the woodpeckers conservators of the wood of old trees, furnished them admirably for their office, and so formed their habits, that an old tree is an Eden to them, fraught with safety, and redolent of plenty and fatness.

—Robert Mudie.

Not unlike its relatives in our own country, the beautiful Green Woodpecker of foreign lands finds in a tree "a castle, a pasture, a larder, a nursery, an alarm-drum and a lute." It frequents the ancient forests of Europe, Asia, where it is even found to some extent in the intemperate climate of Siberia, and in northern Africa. As it is a bird of wide distribution, found in many countries and known to all classes of people, it has been given many common names. Space forbids an enumeration of all of these names, but a few of the more common ones may be mentioned. Some of them, such as Hewhole, Pick-a-tree, Awl-bird and Nickapecker, are eminently suggestive of the birds' habits, and the names High Hoe, Popinjay, Yoppingall and Whittle are not without meaning.

The Green Woodpecker is quite frequently called the Rain-bird, or Rain-fowl, for it is very active and quite noisy as the "droughts begins to soften," a short time before a shower. At this time its harsh note, which has been described as sounding like "glu' glu' glu, gluck," is much more in evidence. It is natural that this bird should be more active as the moisture increases, for in the time of long drought the plant tissues are more or less hardened by the evaporation of the liquids confined within them and many insects, especially those that live in woody tissues, are less active or many remain quiescent. Happy indeed is the bird when the accumulating moisture awakens the activities of the plant, softens its tissues and thus enabled the insects to again seek food. "The insects and the worms come out; the birds feed; new life returns; the tuned instrument is soon in use; the groves are in song the livelong night." There are a number of the insect-eating birds that seem to augur the coming rain by increased activity, especially after a long dry season, and some of these have also been called rain-birds.

In parts of England this Woodpecker is called Yaffle or Yaffil, because to some people its notes sound like a laugh. The poet has referred to this in the following lines:

The sky-lark in ecstacy sang from a cloud,
The chanticleer crow'd and the Yaffil laugh'd loud.

Another popular name, but one that is used with less frequency, is Wood-spite. The first word of this name has reference to the green color of the foliage of the woods it frequents. The word spite is probably a modification of the German word specht—a woodpecker. It has also been suggested that this name may have arisen from the vigorous strokes of the bird's bill against the tree appearing like an exhibition of spite.

Like other members of the woodpecker family, the bird of our illustration



GREEN WOODPECKER (Europe),

Picus viridis.

About $\frac{4}{5}$ Life-size.

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only ascends trees by moving obliquely and in spiral. As it ascends, it carefully examines the bark, tapping and listening as it progresses. On reaching the top of the tree it flies downward to the base of another tree to again repeat the process of ascending, tapping and listening. Occasionally it is seen in hedges, and in severe weather it may seek its food in the walls of old buildings and in cultivated trees. Its hard and sharp bill enables it to penetrate even the hard wood exterior of trees in its search for insects in the somewhat decayed portions within. When the work of its bill has opened a passage to its prey its tongue is used for the extraction of the food. It is an extensile organ and barbed with reflected bristles. It catches insects found on the surface of the bark or upon the ground by the use of the tongue only and the rapidity with which it is moved is wonderful. Reverend F. O. Morris describes its tongue when in motion, as having "the appearance of a silver ribbon, or rather, from its transparency, a stream of molten glass, and the rapidity with which it is protruded and withdrawn is so great that the eye is dazzled in following its motions; it is flexible in the highest degree."

The Green Woodpecker not only feeds upon the grubs that bore in the wood of trees, but also upon the various insects that it finds upon the surface. It will also feed upon the eggs of insects, and ants are dainty morsels of food and of these it destroys a large number, seeking them upon the ground as well as on the trees. Bewick says that the Green Woodpecker will not only use its bill and tongue in its search for ants on the ground, but will also use its feet to scratch away the leaves and dirt.

The Green Woodpecker nests either in a natural hole in a tree or in one that it has excavated. It never attacks a tree for this purpose that is perfectly sound, but only those that are more or less decayed within. Here the labor is light and there is usually an abundance of food near by. Both sexes assist in the work of excavating through the healthy exterior wood and so rapid are the strokes of their bills that it is impossible to count them. The holes are not lined and the eggs are laid on the powdered decayed wood in the bottom or upon a few chips that are left from the chiseling of the hard wood. The young birds leave the nest and run on the tree before they are able to fly and it is said that if they are taken from the tree at this time they may be raised in captivity and will become quite tame.

The woodpeckers are among our most useful birds. Though they do not feed to any extent upon the insect pests of the meadow, the grain field and the garden, they do destroy a large number of the borers and other insects that are injurious to trees. "The aged tree is all to the woodpecker and the woodpecker is much to the aged tree."

The Harris's Sparrow (*Zonotrichia querula*)

By I. N. Mitchell

Length: 7½ inches.

Dr. Coues has said of the Harris's Sparrow that it may be regarded as the most characteristic bird of the Missouri region. Its range is mainly confined to the central United States, reaching from Illinois on the east to Middle Kansas and the Dakotas on the west. North and south its range extends from the interior of British America to Texas. During its migrations it travels in small flocks which suddenly appear in patches of shrubbery where it feeds for a time and soon disappears as quietly as it came. It enjoys the undergrowth and shrubs that are found in ravines and along the banks of streams. An interesting habit, that does not fail to make Harris's Sparrow a conspicuous object, is that of perching, when disturbed, on some high branch of a shrub in order that it may obtain an uninterrupted view of its surroundings and of the intruder.

An observer, who has studied the habits of the species as it passes through the state of Iowa during its migrations, says: "This beautiful Sparrow is one of the commonest of the Fringillidae that pass through the State in spring and fall, associating at such times with the other sparrows and finches and frequenting similar haunts. Its notes in the fall are a simple, loud chirp, not distinguishable from that of the white-throated sparrow and occasionally a low sweet warble. In the spring it has a curious song, beginning very much like that of the latter bird but ending in a few harsh, drawling notes, sounding like a faint mimicry of the scream of the night hawk and totally unlike the first part of the song."

This Sparrow seems to have a happy disposition. Colonel Goss says: "They commence singing early in the spring, and upon warm, sunshiny days their song can be heard almost continually, as one after the other pours forth its pleasing, plaintive, whistling notes, in musical tone much like the white-throated sparrow, but delivering in a widely different song."

Mr. Nehrling observed it in Texas, during the month of November, where it was associated with juncos, white-crowned and field sparrows, in flocks consisting of thousands of individuals. He caught several of the Harris's Sparrows and confined them in cages. They became tame and he fed them on various insects, kaffir corn and canary seed.

This Sparrow is of large size and when dressed in its summer plumage it is a strikingly beautiful bird. The glossy black of its crown and throat are made prominent by the bright coat of the usual sparrow mixture of colors" that covers the remainder of the body.

But little is known of the breeding habits of this Sparrow. Its nests are built in the northern part of its range, probably only in the interior of British America. The only authentic record of its breeding range is that of Mr. Edward A. Preble, who found an adult male and female in company with young just from the nest, at Fort Churchill.

Seven common species of swallows are found within the limits of the United



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HARRIS'S SPARROW.
Zonotrichia querula.
Life-size

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States, four of which have abandoned to some extent their primitive nesting habits and have attached themselves to the abodes of man.

In the eastern part of the country the barn swallow now builds exclusively under roofs, having entirely abandoned the rock caves and cliffs in which it formerly nested. More recently the cliff swallow has found a better nesting site under the eaves of buildings than was afforded by the overhanging cliffs of earth or stone which it once used and to which it still resorts occasionally in the East and habitually in the unsettled West. The martin and white-bellied, or tree, swallow nest either in houses supplied for the purpose, in abandoned nests of woodpeckers, or in natural crannies in rocks. The northern violet-green swallow, the rough-winged swallow, and the bank swallow still live in practically such places as their ancestors chose.

Field observation convinces an ordinarily attentive person that the food of swallows must consist of the smaller insects captured in mid-air or picked from the tops of tall grass or weeds. This observation is borne out by an examination of stomachs, which shows that the food is made up of many small species of beetles which are much on the wing; many species of mosquitoes and their allies, together with large quantities of flying ants; and a few insects of similar kinds. Most of these are either injurious or annoying, and the numbers destroyed by swallows are not only beyond calculation but almost beyond imagination.

Unlike many other groups of birds, the six species of swallows found in the Eastern States extend in a practically unchanged form across the continent, where they are reinforced by the northern, or Pacific coast, violet-green swallow.

It is a mistake to tear down from the eaves of a barn the nest of a colony of cliff swallows, for so far from disfiguring a building they make a picturesque addition to it, and the presence of swallows should be encouraged by every device. It is said that cliff and barn swallows may be induced to build their nests in a particular locality, otherwise suitable, by providing a quantity of mud to be used by them as mortar. Barn swallows may also be encouraged by cutting a small hole in the gable of the barn, while martins and white-bellied swallows will be grateful for boxes like those for the bluebird, but placed in a higher situation.

The Bush-Tit (*Psaltriparus minimus*)

By F. E. L. Beal

Length: 3½ inches.

The Bush-Tit or Least Titmouse belongs to the large bird family, Paridæ. The species of this family are represented by the titmice, nuthatches and chickadees. In distribution, the family is quite cosmopolitan, and contains several species that are noted for the peculiar and beautiful nests that they build. The majority of the species, however, choose, as a site for their home, holes in trees, or in fence rails and posts, or in the timbers of old buildings. These cavities are neatly and warmly lined with a thick matting of vegetable down, animal hair and feathers. The homes of the true titmice are found in such places.

The Bush-Tits of the Pacific coast of the United States, as well as nearly all the other species of long-tailed titmice, build wonderful nests which are pensil and exceedingly large, when the size of the birds is considered. *Minimus*, the specific name of the Bush-Tit which we illustrate, is an appropriate name, for the bird is scarcely larger than our common humming bird. In the forests of the Pacific coast, it is an abundant and familiar bird, and its gentle, though active, nature endears it to all observers of bird life. It is said that at times it is so intent in its search for insect food that it is perfectly oblivious to its surroundings and may be easily taken alive. By imitating its call-notes, a number of Bush-Tits may always be attracted to the vicinity of the intruder.

The Bush-Tits are usually seen in small flocks, and the birds, while hunting for insects on the tree foliage, will constantly utter their call-notes. Though it is seldom that two nests are found very near together, yet if one pair is frightened and utters an alarm-note, a number of others will soon appear in the vicinity. If one of a flock is killed, great anxiety is shown by all the rest. They gather around and utter a call that seems almost pathetic, and flying a short distance, while still uttering the call, seem to invite the dead companion to follow. So profound is their anxiety and so earnest is their effort to arouse the dead bird, that the presence of a person is hardly noticed.

The nest of the Bush-Tit is an elaborate affair about eight inches long and three inches in diameter, and in form quite like a long purse. It is suspended from the branches of any tree that suits the fancy of the birds, and is seldom more than five or six feet above the ground. The structure is a woven mass of twigs, moss, bark fibers, leaves and lichens. The entrance is near the top and sheltered by a cover or roof of woven moss and lichens, and also by the foliage of twigs from which it is suspended. The opening is further strengthened by a strongly woven ring. An observer, describing the interior of a nest, says: "The passageway, at a distance of two inches within the opening, suddenly contracts and its course from being horizontal, descends perpendicularly to the bottom of the nest. The narrow passage below this neck-like contraction, as well as the whole structure itself, again expands, growing larger as it descends, and the lower portion of the nest takes the shape of a cylindrical pouch, three inches in



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BUSH TIT.
(*Psaltriparus minimus*).
Lifesize.

diameter at its greatest enlargement. The length of the passageway is about six inches." It seems almost impossible that two tiny birds can build in a short time such an elaborate and so large a nest. Even the gathering of the materials must require a large amount of labor. It has been suggested by several observers that the nest is not the result of the labor of a single pair of birds, but that the whole flock unite their energies in its construction.

The notes of the Bush-Tit well illustrate the difference between the call-notes and danger signals of some of the smaller birds. Mr. John J. Williams, in an article on "Common and Special Call Notes," published in a recent issue of the "Condor," speaks of the Bush-Tit's notes. He says: "Why these mites of birds should use a warning signal when near human beings, is beyond me, as they are practically unmolested by them at any time, yet such is the case. Here they flit incessantly, in small companies, from one bush to the next over the bush-covered hillsides, passing rapidly along, usually on a straight course, completely absorbed in the search for their minute insect food and uttering a continuous chorus of fine lisping 'tsit it it tsee ee ee.' Frequently I have heard them coming some distance off, and have placed myself in the open, close to their line of travel, in order to observe their actions better. Nearer they come until they are within arm's reach, and their call notes still sound as merrily as before. Suddenly one of them recognizes in me something strange and unusual. Not a move have I made, and yet first one and then another gives a warning note, an imperative little 'tswit-tswit-tswit,' and as if by magic, they pass around me and some little distance away. Not one has flown directly away from me, but for the sake of safety they have changed their course temporarily. In a minute or so their warning notes cease, they feel easier and their cheery little call-notes sound forth again as they resume their original direction through the bushes."

The Habit of the American Goldfinch (*Spinus tristis*)

By Gerard Alan Abbott

The names Goldfinch and Wild Canary are applied indiscriminately by the casual observer to a score of different birds. Some time ago I overheard the following conversation:

"Oh, what a pretty bird. Did you see it?"

"No, what was it?"

"Why, I don't know. It had some yellow on it, and was rather small," continued the observer.

"Must be a Wild Canary," responded the second party.

Similar conclusions are not infrequently arrived at, when some warbler, sparrow, or flycatcher chances in the path of an inexperienced but enthusiastic bird admirer.

In the United States our true Goldfinch, or Wild Canary, remains with us the whole year, and is known in various phases of plumage according to the seasons of the year. The charming ways of a devoted pair of these hardy creatures should render them easy of identification at all times.

Few farm orchards or thistle patches are without a pair of these little birds. The male, with a voice equal in tone and quality to his beautiful plumage of black and yellow, finds a warm place in the heart of every bird-lover, naturalist, and agriculturist. These are not the only virtues possessed by the Goldfinch. He is of great economic value, and the number of seeds of the thistle, the dandelion and other noxious plants which these birds destroy, is astounding.

The female is less vivacious than her mate, but she has that same sweet call note, so full of expression. Their voices have always impressed me as having something human about them. Goldfinches are fond of each other's society, and on many a summer day have I whiled away the hours witnessing the movements of these birds. Their flight is conducted in a peculiar, undulatory manner, as both sexes dart back and forth above the tree tops, whose dense foliage shelters many a nest of treasures. Twittering incessantly while on the wing, their life appears one perpetual volume of happiness.

Spring passes and occasionally the summer months elapse before the Goldfinch enters into domestic duties. The female is a skilled architect and her nest, after one year's exposure in this climate, appears more substantial than some other bird structures just completed.

During July and August, when thistle down is floating in the air, the female selects for a nesting site the crotch of a fruit or shade tree, often in close proximity to dwellings. Indian hemp, vegetable down and plant fibers are securely woven and matted together, forming a broad brimmed, deeply hollowed nest into which a bountiful supply of thistle down is placed. The nest is usually situated within twenty feet of the ground. Three to six faint bluish white eggs

NEST OF THE AMERICAN GOLDFINCH

1 Life-size.

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are laid, with an average length of sixty-five hundredths of an inch by forty-eight hundredths of an inch in breadth. The period of incubation is two weeks. This species has been found nestling on the tops of thistle plants, from which they often take the name of Thistle Bird.

The nest illustrating this article was built in an oak shrub, five feet from the ground, and was taken September 1, 1901. At this late date incubation had only commenced, and although the timber about the nesting site swarmed with migrants passing southward, Mother Goldfinch expressed no anxiety over the late condition of her household affairs.

The Return of the Birds

Get ready to observe the return of the birds. If we were in the southland and understood bird language, no doubt we should hear many conversations among the birds about getting ready for their trips north. Before this month is out, unless the weather is unusually rigorous, some of the early arrivers will have come. It is to be hoped that the study and observation of the winter birds will have created enough interest in our feathered friends to lead us to study more carefully the many summer birds.

Prepare to keep a bird-book. Note the time of the first arrivals, whether you observe the first robin in the morning or the evening, etc. Look in your Birdercraft or Bird Life for the probable time of the arrival of different birds and set down in your note-book whether they come in on time or not. If you see a bird that is not familiar to you, note as many of its characteristics as possible, then compare your notes with some authority and learn its name.

As the nights grow warmer, go out and listen, and see whether you do not hear the cries of birds as they come back.

Put into your note-books the things you actually see, observe and think about the birds. You will find so much of interest to note, as the birds sing their spring songs, commence their nest building and all, you will soon grow enthusiastic over your book.

Your note-book may become a general nature-book as well as a bird-book. While in the woods or fields observing the birds, you may note the sprouting of a nut or seed, the bursting of the shell of a chrysalis, the unfolding of the frond of a fern, and many other interesting things.—S. S. M.

The Philippine Sun-Bird (*Cinnyris jugularis*)

By Thomas S. Roberts

Darlings of children and of bard,
Perfect kinds by vice unmarred,
All of worth and beauty set
Gems in Nature's cabinet:
These the fables she esteems
Reality most like to dreams.

—Ralph Waldo Emerson, "Nature."

The sun-birds bear a similar relation to the oriental tropics that the humming birds do to the warmer regions of the Western hemisphere. Both have a remarkably brilliant plumage which is in harmony with the gorgeous flowers that grow in the tropical fields. It is probable that natives of Asia first gave the name sun-birds to these bright creatures because of their splendid and shining plumage. By the Anglo-Indians they have been called humming birds, but they are perching birds while the humming birds are not. There are over one hundred species of these birds. They are graceful in all their motions and very active in their habits. Like the humming birds, they flit from flower to flower, feeding on the minute insects which are attracted by the nectar, and probably to some extent on the honey, for their tongues are fitted for gathering it. However, their habit while gathering food is unlike that of the humming bird, for they do not hover over the flower, but perch upon it while feeding. The plumage of the males nearly always differs very strongly from that of the females. The brilliantly colored patches are unlike those of the humming birds, for they blend gradually and are not sharply contrasted, though the iridescent character is just as marked. The bills are long and slender, finely pointed and curved. The edges of the mandibles are finely serrated.

The nests are beautiful structures suspended from the end of a bough or even from the underside of a leaf. The entrance is near the top and usually on the side. Over the entrance a projecting portico is often constructed. The outside of the nest is usually covered with coarse materials, apparently to give the effect of a pile of rubbish. Two eggs are usually laid in these cozy homes, but in rare instances three have been found. The Philippine Sun-bird of our illustration is a native of the Philippines and is found on nearly all the islands from Luzon to Mindanao. The throat of the male has a beautiful iridescent shaded with green, while that of the female, shown on the nest, is yellow.

Fly, white butterflies, out to sea.
Frail pale wings for the winds to try;
Small white wings that we scarce can see
Here and there may a chance-caught eye
Fly.
Note, in a score of you, twain or three
Brighter or darker of tinge or dye;



PHILIPPINE YELLOW-BREASTED SUN-BIRD.

(*Cinnyris jugularis*).

Life-size.

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Some fly light as a laugh of glee,
Some fly soft as a long, low sigh:
All to the haven where each would be—

Fly.

—SWINBURNE.

Our Skylark

By Edward B. Clark

The English Skylark is trying to become an American citizen. Possibly it is too early yet to call it our skylark, but it is said that the bird has shown that it can stand the American climate and that the few larks now with us are likely to become the forefathers and foremothers of a long and tuneful line of songsters.

It is a sweet bird, this skylark. Englishmen who have come to our shores to stay always have felt it a personal grievance that America had no skylark. After the manner of John Bull, the Englishman has seemed to feel that in some way the American people were to blame for the absence of the lark from the Yankee avifauna. Small blame to John for missing him. The bird is no beauty. We have a thousand better-dressed birds and a thousand as well behaved, but it is the characteristics of the skylark which have made it dear to the British heart.

There is in this country a bird called the western pipit, locally known as the Missouri skylark, whose habit and sign are similar to those of its British brother. The wonder has been that no poet has been found in this middle western country to sing its praise. Perhaps the fault lies in the extreme local distribution of the species. But, surely there be poets in the Missouri River country.

Back almost as far as we can go in English poetry we find the lark. Llyl wrote of the bird; so did Shakespeare; so did all the poets down to the very moderns. Hogg said, "Sweet be thy matin o'er moorland and lea," and but few more graceful lines have been written. Burroughs in his book touching on birds and poets say plumply that he prefers Wordsworth's words on the lark to those of Shelley. This may sound like rank heresy, but Burroughs is never anything if not blunt. The "Ode to the Lark" is too long, he says, in effect. The lark's song itself is long, to be sure, but "the lark can't help it and Shelley could."

Let others choose. Here are two of the better known extracts from two great English poets. Wordsworth calls the skylark the pilgrim of the sky. He says:

Leave to the nightingale her shady wood;
A privacy of glorious light is thine,
Whence thou dost pour upon the world a flood
Of harmony, with instinct more divine;
Type of the wise who soar, but never roam,
True to the kindred points of heaven and home.

Shelley writes :

With thy clear, keen joyance
Langour cannot be;
Shadow of annoyance
Never came to thee;
Thou lovest; but ne'er knew love's sad satiety.

Waking or asleep,
Thou of death must deem
Things more true and deep
Than we mortals dream,
Or how could thy notes flow in such a crystal stream?

Now that the skylark is an American bird, the American poets may make pilgrimages to the Long Island meadows, there to listen and then to lie them to their closets to sing. Will one of them ever rise to the height of the master who in one line put more of beauty and of truth than did all the poets who have gone before or who have come and gone since? What a picture is this of a fluttering form outlined against the zenith while the tinkling notes come showering down:

Hark, hark! The lark at heaven's gate sings.
Like the bird, Shakespeare sang at heaven's gate.

To the Robin

By Grace W. Ballard

An early herald of the Spring,
With russet breast and glossy wing,
Is at my door. O! Robin, dear,
How sweet your song of "Cheer up, cheer."

How can you sing when well you know,
Winter is here? Beneath the snow
No food for you, yet not a fear,
Is in your song of "Cheer up, cheer."

Cold are the days of rain and sleet;
Where can you rest those tiny feet?
I hear you say that Spring is near,
In hopeful song of "Cheer up, cheer."

What hope and trust is in your note,
My little friend with scarlet throat.
Teach me your joy through smile or tear,
A song to sing of "Cheer up, cheer."

Friends of Our Forests

By Henry W. Henshaw

At every stage of their growth, from the seed to the adult tree, our forest, shade and orchard trees are subject to the attacks of hordes of insect enemies, which, if unchecked, would soon utterly destroy them.

What the loss of our forest and shade trees would mean to us can better be imagined than described. Wood enters into so many products that it is difficult to think of civilized man without it, while the fruits of our orchards also are of the greatest importance. Aside from the economic loss, which can hardly be imagined, much less estimated, how barren the world would seem shorn of our forests and beautiful shade trees!

Fortunately, the insect foes of trees are not without their own persistent enemies, and among them are many species of birds whose equipment and habits specially fit them to deal with insects and whose entire lives are spent in pursuit of them. Many insects at one or another stage of their existence burrow deeply into the bark or even into the living wood of trees, and so are quite safe from ordinary bird enemies. Woodpeckers, however, being among the most highly specialized of birds, are wonderfully equipped to dig into wood and to expose and destroy these hidden foes.

Certain insects that largely confine their attacks to the smaller branches and terminal twigs are sought out and preyed upon by nuthatches, creepers, titmice, and warblers. Others, and their number is legion, attack the blossoms and foliage, and here the nimble and sharp-eyed warblers render supreme service, the number of plant lice and lepidopterous larvae they destroy in a single day almost challenging belief.

Thus our woodland songsters are among the most important of all our birds, and in their own field render man unequaled service. Moreover, very few have any injurious habits, and the little harm they do, if any, weighs as nothing in the balance when compared with the good. By reason of their numbers and their activity in hunting insects, our warblers take first place as preservers of the forest, and the following account, which treats of about half the total number, is devoted to the more conspicuous, the more important, and the commoner species.

THE WARBLER FAMILY

Our wood warblers are assembled in a rather loosely defined family (the *mniotiltidae*), embracing in all about 140 species, of which more than a third are visitors to the United States. They are fairly well distributed over the country at large, although more species make their summer homes in the eastern half of the United States than in the western.

A number of notable species, however, summer in the West, as they do also in the Southern States. Our New World warblers are quite unlike their Old World relatives, the *Sylviidae*, or true warblers, whose family includes some 75 genera and between 500 and 600 species.

Not only do our American species differ structurally in many particulars from their Old World representatives, especially in possessing nine instead of ten primaries, but they differ markedly also in appearance and habits. It may be said in passing that while our warblers are brilliantly colored and many of them sexually dissimilar, those of the Old World are not only small, but plainly plumaged; moreover, the sexes are generally alike in coloration.

The larger number of our warblers, as well as the most characteristic, are included in the one genus *Dendroica*, which is notable, since it includes more species than any other genus of North American birds.

HAUNTS OF WOOD WARBLERS

Fortunately for the bird lover, our wood warblers are not recluses. They are creatures of light and sunshine. Some of them, it is true, retire to the mountain fastnesses or the depths of coniferous forests during the nesting period; but the number of these is small and their withdrawal for only a comparatively short time, while the majority at all times of the year favor the edges of the forest, open woods, or brushy clearings.

Their preference for such situations brings many within the bounds of civilization and renders it comparatively easy for any one so inclined to make their acquaintance. As during migration they assemble in flocks, they are, on the whole, pretty well known; and since, as a rule, they are not shy, they have long been favorite objects of observation and study.

WARBLERS AS SONGSTERS

Despite their name, which would seem to imply musical ability of no mean order, our wood warblers, with few exceptions, occupy no very high place in the musical galaxy. All sing, however, after a fashion, and the musical efforts of some are pleasing, even according to human standards. While most warblers are prodigal enough with their music and sing early and often, especially prior to and during the nesting season, their music is frequently so faint as to be audible only to the trained ear of the bird lover.

As if aware of their musical inferiority, few display much enthusiasm in their vocal efforts, but sing while they work, or while pausing for a brief moment as they move among the foliage hunting for food. With them, singing appears to be an audible expression of general content and well being, and, no doubt, an effort to please and attract their mates.

Certain members of the thrush and thrashes families, on the contrary, which contain in their ranks the prima donnas of our bird world, as if conscious of their supremacy, are wont to mount a commanding perch when about to sing, and to pour out their melody for all the world to hear. With them, singing is not merely incidental to the day's work. It is a conscious and supreme effort, and is much too important to be slighted or shared with any other function. Apparently they appreciate to a great extent and enjoy their own outpourings, and, if we may interpret their feelings by human standards, are conscious that their musical offerings entitle them to an audience.

TROPICAL ORIGIN OF WARBLERS

Not only do their bright colors suggest a tropical origin of our warblers, but their whole make-up is in keeping with tropical surroundings. Warblers are thinly feathered and delicately organized and most of them incapable of withstanding any great degree of cold. They are also almost exclusively insect eaters, only a few of the family being at all vegetarian, and these only to a comparatively small extent.

Hence, with them, migration is not a matter of choice, but is imperative. They come to us on a particular errand for a few short months, and when family cares are at an end, back they hie to the tropics, the lands of warmth and sunshine, which lend them to us for a brief season. Thus the true home of our warblers is not where they nest, but where they spend three-fourths of their lives—not the north, but the south—not in the temperate, but in the tropical zones.

SPECTACULAR MIGRATION OF WARBLERS

That wonderful phenomenon, bird migration, is illustrated by few birds so clearly and convincingly as by our wood warblers. Assuredly no other birds—unless it be the geese—migrate in such a spectacular manner. The stroller, in late August or September, finds himself in the woods, the silence being broken only by the drumming of a distant partridge, the chirping of insects, or other familiar sounds which only emphasize the general quiet that prevails.

Presto! The scene changes! The woods, apparently almost tenantless but a moment before, are now filled with life of the most animated and intense kind. Every shrub, every tree, has its feathered occupant. Our observer recognizes perhaps a dozen or twenty species, representing several distinct families; but prominent among them, by reason of numbers, variegated plumage, graceful forms, and active motions, are the wood warblers.

Every individual is alert and busy, gliding from one twig to another near by, or flying from one tree to the next, while from all sides come the soft calls and notes of individual members of the flock, whose friendly converse has the effect, if not the purpose, of keeping the individuals of the assemblage in touch with each other and with the flock as a unit. In a few moments silence again reigns where all was commotion and activity. The birds have passed on their seemingly aimless course.

If the observer would learn the solution of the mystery of the birds' evident hurry, he has only to follow them for a time, when he will find that, however erratic may seem the course of individual members of the flock, the flock as a whole is steering a tolerably straight course southward. In other words, he is in the midst of a flock of birds en route to their winter quarters and, in order to economize time, feeding as they go. This, however, is not the only way warblers migrate, nor is it the most important, since the greater part of the long journey of many is performed by night.

Anyone with good ears has only to listen on a clear, frosty night in fall to hear hundreds of warblers and other birds as they flit by, a few hundred yards

above the earth, the call notes coming incessantly out of the darkness. The route of these flying hosts often carries them above cities, and one cannot be insensible to the incongruity between his surroundings and the woodland scenes, so vividly brought to mind by the lisping notes coming from the darkness overhead. The subject of migration has not inspired our poets so often as might be expected, but Longfellow, in his "Birds of Passage," gives us the following wonderfully suggestive lines:

But the night is fair,
And everywhere
A warm, soft vapor fills the air,
 And distant sounds seem near;
And above, in the light
Of the star-lit night,
Swift birds of passage wing their flight,
 Through the dewy atmosphere.

I hear the beat
Of their pinions fleet,
As from the land of snow and sleet
 They seek a southern lea.
I hear the cry
Of their voices high,
Falling dreamily through the sky.
 But their forms I cannot see.

Probably because insects constitute such an important part of their food, warblers, as a rule, migrate early in fall and late in spring. It is true that in fall many linger till frosts nip the vegetation; but insects are abroad even later than this, and it is only necessary to watch these late migrants for a short time to learn that their search for insects is being well rewarded.

Only a few species come north early in spring, the great bulk of the warblers evidently having been taught by bitter experience that in spring, at least, it is not the early bird that finds most worms or finds them easiest.

FLOCKING OF SMALL BIRDS

Just why small birds, when migrating, congregate in large flocks and troop through the woodlands has often been the subject of speculation. Juncos, several species of sparrows, woodpeckers, nuthatches, chickadees, creepers, and, above all, warblers, combine to swell the ranks of these migrating companies. As many as a dozen or more species of warblers may often be seen in one flock, which, in addition, may include 200 or 300 individuals, representing a number of families whose tastes and habits in every-day life differ very widely.

Yet here are these incongruous elements mingling together on terms of the utmost friendliness. Since birds are sociable beings, except during the short time when family cares prompt to jealous vigilance, sociability alone may be the bond of union; added, however, to the kindly feeling of companionship probably

is a feeling of increased security which comes from numbers. Certainly no enemy can approach one of these bird assemblages without being spied by at least one pair of vigilant eyes, when the flock is immediately notified by a few sharp chirps—warning for every individual to seek safety in flight or to scurry to cover.

WHAT MYSTERIOUS SENSE GUIDES THEM IN THEIR LONG JOURNEYS?

In what manner warblers migrate—that is, how they are guided on their long journeys—is a moot question. Little mystery attaches to their ability to find their way north or south in daylight, since the recognizable landmarks are many and prominent. As most birds, especially the warblers, choose starlight and moonlight nights for their trips, perhaps they are similarly guided by night, and natural landmarks, as mountains, rivers, and the coastline may point out much, if not all, of their way.

However plausible this explanation may sound in the case of birds migrating over land, it utterly fails when applied to migrants whose journeys north and south necessitate flight over long stretches of ocean, in some instances at least 2,000 miles, quite out of sight of land and all landmarks.

In seeking an explanation of the mystery of birds' ability to find their way under such circumstances, many are inclined to reject the one-time sufficient answer, "instinct," in favor of the more recent theory, the possession by birds of another faculty, the so-called "sense of direction." This added sense enables birds to return to a known locality with no other aid than an ever-present knowledge of the right direction.

But in the case of our wood warblers, there is little need of appealing to another sense to guide them in migration, or, indeed, to anything out of the ordinary save excellent memory and good eyesight. The five-hundred-mile flight toward the tropics across the Gulf of Mexico is made by preference, and however it originated as a fly line, had it proved to be extra hazardous, it might have been abandoned at any time in favor of the apparently safer West Indian route.

But, after all, the Gulf trip involves few hazards, other than those connected with storms, since the flight across the water, even at a slow rate, would necessitate a journey of less than 24 hours, and this, no doubt, is quite within the capacity of even the smallest and weakest of the family. Moreover, the South American Continent is too big a mark to be easily missed, and an error of a few hundred miles north or south would make little difference in the safety of the birds.

WHY WARBLERS MIGRATE

It may be set down as an axiom that all birds which travel south in fall do so because they must migrate or freeze or starve. Why some of them leave early when food in their summer home is seemingly so abundant, is indeed a puzzle. Once the nestlings are on the wing and ready for the journey, off they go, old and young.

Nevertheless, by an apparently premature start they anticipate by a few weeks the time of scarcity when they must go, and perhaps the lesson of bitter

experience in the history of the several species has taught them to go when all the conditions are favorable. It is true that every winter a few birds, often a few individuals of a given species, winter far north of the customary winter home. Some of these are evidently stragglers or wanderers which, for some unexplained reason, failed to accompany the rest of their kind on the southward migration. They in no wise affect the general statement, being exceptional in every way.

A few of our warblers in Florida and on other parts of our southern coast do not migrate; but the almost universal rule in the family is to abandon the summer home when the care of the young ceases and to go far southward ere they stop for the winter. Indeed, the males of many species do not trouble themselves much with the care of the nestlings, but prepare to migrate before the young are well on the wing.

A still more flagrant case is that of the hummingbirds. The male deserts the female when she is still on her eggs, shifting the responsibility of caring for the family entirely on her devoted head, while he disports himself among the flowers, leaving for the south long before his exemplary mate and the young are ready.

Some of our species, however, while migrating southward, are satisfied to remain all winter within our boundaries. Thus the pine and palm warblers winter in the Gulf states, while a greater or less number of individuals, representing several species, winter in southern Florida. The great majority, however, winter south of the United States, in Central and South America.

Thus Professor Cooke tells us: "The prairie, black-throated blue, Swainson's, Bachman's, Cape May, and Kirtland's warblers go only to the West Indies. The worm-eating, myrtle, magnolia, chestnut-sided, black-throated green, hooded, blue-winged, Nashville, orange-crowned, parula, palm, and Wilson's warblers, and the chat, go no farther than Central America, while many species spend the winter in South America, including some or all the individuals of the black and white, phthonotary, golden-winged, Tennessee, yellow, cerulean, bay-breasted, block-pol, Blackburnian, Kentucky, Connecticut, mourning, and Canada warblers, the redstart, oven-bird, and both the water-thrushes. Nearly all the warblers of the western United States spend the winter in Mexico and the contiguous portions of Central America."

VAST NUMBERS SUCCUMB

The northward journey in spring, away from the land of sunshine and plenty to the land of uncertain spring weather, is another matter. Probably if all birds that habitually abandon the north and winter in the south were to nest there, their quota, added to the number resident in the tropics, would be too great for the means of subsistence.

Nevertheless, birds are not forced away from their winter quarters by inclement weather or impending famine, but by the subtle physiological change which warns them of the approach of the mating season and fills them with new desires,

among which is the compelling one of a return to the spot where they first saw the light, or where they reared last season's brood.

Whatever the cause, the birds are not discouraged by the many and great perils that attend migration, and vast numbers every year succumb to them. Storms, especially off-shore storms, constitute the gravest peril, and there is abundant evidence that millions of birds are annually blown out to sea to final watery graves. Perhaps no family suffers more in the aggregate than the warblers. Thinly feathered, delicately organized, highly insectivorous, they are exposed to unusual dangers while birds of passage to and from their nesting grounds.

It is a matter of common observation that every few years in some given locality, perhaps embracing a region of considerable size, a particular species of warbler or other bird suddenly becomes rare where before common. After a season or so, though sometimes not for years, the equilibrium is reestablished and the numbers are as before. These changes very probably are the visible signs of migration catastrophies, the result of the sweeping away of a migration wave, composed of one or of many species, in the path of some sudden storm.

Again, many of us have witnessed the dire effects of a prolonged rain and sleet storm in spring, when thousands of luckless migrants find only too late that they have permanently left the warmth and plenty of their tropical winter refuges. Under such circumstances thousands of migrants perish from the combined effects of cold and starvation, and among them are sure to be great numbers of warblers.

ECONOMIC VALUE OF WARBLERS

From the esthetic point of view, our warblers, as a group, occupy a high and unique position. They also occupy no uncertain place in the list of our useful birds. Preëminently insectivorous, they spend their lives in the active pursuit of insects. They begin with the eggs, preying upon them whenever and wherever found, and continue the good work when the egg becomes the larva and when the larva becomes the perfect insect.

They are especially valuable in this respect because of the protection they lend to forest trees, the trunk, bark, and foliage of which they search with tireless energy. Their efficiency is vastly increased because the many different species pursue the quest for food in very different ways. While some confine their search chiefly to the trunks and large branches and examine each crack and crevice in the bark for eggs or larvae, others devote their energies to the twigs and foliage, scanning each leaf and stem with eager eyes. Still others descend to the ground and examine the rubbish and grass for hidden prey, while nearly all are adept at catching insects on the wing.

Each species, however, has a method of its own, more or less unlike that of its fellows, and each excels in some specialty. Not only does the group as a whole specialize on insects, but each individual member of the group still further specializes, so as to leave no loophole for the escape of the enemy.

The quantity of animal food required to drive an avian engine at full speed

is so very great that it is no exaggeration to say that practically all the waking hours of our warblers, from daylight to dark, are devoted to food-getting. What this never-ceasing industry means when translated into tons-weight of insects, it is impossible even to guess, but the practical result of the work of our warblers and other insectivorous birds is that we still have our forests, and shall continue to have them so long as we encourage and protect the birds.

In the case of orchards and shade trees, there are other means at our disposal of controlling the insect enemy, notably the use of sprays. Sprays are very important, since birds are too few in number immediately to control insect outbreaks, especially nowadays, when the number of destructive native insects has been so greatly increased by importations from all quarters of the globe. But for the preservation of our forests we must rely largely upon our birds, since the use of sprays or of other agencies over our vast woodland tracts would be too expensive, even were it not quite impracticable for many other reasons.

MEANS OF INCREASING THE NUMBER OF WARBLERS

Insects are very numerous, and there is reason to believe that much benefit would result if we could multiply the present number of their enemies—the birds. The erection of bird boxes and shelters is an easy way to increase the number of certain species of birds, like swallows and chickadees. Unfortunately, with few exceptions, our warblers do not build their nests in cavities, and hence can not be induced to occupy bird boxes.

Many of them, however, nest in bushes, vines and shrubbery, and by planting clumps of these near houses something can be done toward increasing the number of certain species, as the yellow warbler and the redstart. Because our warblers are chiefly insectivorous, their food habits bar them from the usual bird *sun-h*-counter in times of hard storms.

During migration, warblers are peculiarly exposed to the danger of prowling cats. Many species feed close to or even on the ground, and then they are so much concerned with their own business that any tabby, however old and lazy, is equal to catching one or more individuals daily. The bird lover can do good service by summarily disposing of vagrant cats, which, during migration, work havoc in the ranks of our small birds.

They can also restrain the pernicious activities of their own pets, for these, however well fed, are still subject to the predatory instincts of their wild ancestry, which impel them to stalk a live bird with all the zeal and cunning of their forebears.

PLUMAGES OF WARBLERS

Little difficulty is experienced, even by the tyro, in distinguishing warblers from other birds, but to recognize the several species is not so easy, particularly as the adult males and females of many species are markedly dissimilar, while the young, both in the first and second plumages, often differ from the adults. So far as possible the various plumages are shown in the illustrations of the artist, which are so admirable as to do away with the need of descriptive text. All are approximately one-half life size.

Our Night Hawk

By Edward B. Clark

Our bird friend the night hawk is handicapped with a name suggestive of chicken thievery and midnight marauding. In both England and America the word in its plural form has been used for years as one of reproach for vandals who unhinge gates, hang the worthy doctor's sign over the door of the undertaker and replace the mortar of the apothecary with the spade of the grave-digger.

The night hawk in some unenlightened country districts still is held to be an enemy of the poultry yard and is classed in the infamy calendar with the sharp-shinned and the cooper's hawks. It would seem that everybody ought to know, but everybody doesn't, that the night hawk is not a hawk at all, but on the contrary, is a beneficial bird, making its chief prey the poisonous mosquito and the pestiferous gnat.

Year by year the wild-bird colony of Chicago increases in numbers. The night hawks squeak over the city's roofs and rear their young on the hard gravel thereof. The birds are attracting the attention of the populace. Hundreds of people watch them nightly in summer as they pass in rapid and easy flight above the shore line of the lake on the North Side. Just how much the birds do to keep down the plague of insects it is hard even to conjecture, but they have cavernous mouths and capacious stomachs, and their pest-destroying work ceases not from sunset until late night.

One summer the janitor of a North Side apartment building who had climbed to the roof to look for a leak was something more than startled by a large bird which took to flight with a protesting cry from almost beneath his feet. The janitor barely escaped stepping on two darkly marked eggs which closely resembled the larger of the pebbles among which they were placed. There was not a sign of a nest. The night hawk, the roof dweller, lacks either the art or the inclination to provide a soft couch for its young. Theirs is a stony bed, whether made in city or country.

The janitor told the story of his discovery to a tenant, who for once had the temerity to give orders to the king of the flats. No one not properly accredited as a bird lover was to have access to the roof. The janitor was of the right sort. "No need to tell me that," he said; "I wasn't going to tell anybody but you. The man who robs that nest will lose his lease, or I'm no janitor."

The night hawk hatched its young. The fledglings took their first flight into a darkened world, but they saw their way well enough, for the night hawk holds in contempt the creatures who need anything brighter than starlight to make clear the path.

The Golden Eagle (*Aquila chrysaetos*)

By W. Leon Dawson

Description.—*Adult*: General plumage rich dark brown, sometimes paling on wing-coverts, etc.; the lanceolate feathers of occiput and cervix buffy-tipped and tawny-edged (scarcely "golden," but the name arises here); wing-quills and tail blackish, the latter clouded or obscurely barred for the basal two-thirds with grayish brown and whitish; tarsi, fully feathered to the toes, paler or whitish. The birds become somewhat gray with age. *Immature*: Like adult, but basal two-thirds of tail plain white contrasting with terminal black; tarsi still paler or white. (Authorities flatly disagree as to whether the white-tailed bird is adult or young; I follow Ridgway. There is a difference but for pity's sake let's not go and kill off the rest of the Eagles for the sake of finding out who is in the right.) Adult male length 30.00-36.00 (762.914.4); wing about 24.00 (609.6); tail about 14.50 (368.3); bill 1.60 (40.6); tarsus 3.75 (95.3). Adult female length 35.00-40.00 (889.-1016.); wing about 26.00 (660.4); tail 15.50 (393.7); bill 1.80 (45.7); tarsus 4.18 (106.2). Extent of wing from six and one-half to seven and one-half feet.

Recognition Marks.—Largest; not easily distinguished at distance from immature Bald Eagle; feathered tarsi, of course, distinctive.

Nest, a bulky platform of sticks, on cliffs, or, more rarely, in trees. *Eggs*, 2 or 3, dull whitish, usually speckled, spotted, blotched or stained distinctly and faintly with reddish brown. Av. size, 2.96x2.32 (75.2x58.9).

Range.—North America south to Mexico, and northern parts of the Eastern Hemisphere. Breeding range in the United States practically restricted to the mountainous parts of unsettled regions.

Because of the racial weakness for symbols and striking generalizations, we have been taught that the Golden Eagle is the embodiment of all regal qualities, including courage, magnanimity, and valor in defense of offspring. There is some foundation for all this. In his mountain home the majestic flight of the Eagle truly befits the grandeur of the scene. Cradled on a beetling cliff and schooled in the clouds, it is little wonder that the Eagle should have become for us the symbol of both prowess and aspiration. Even in captivity there is something awful about his piercing eye, and the unrest of the royal captive appeals to all that is chivalrous in our natures.

But the reputation of the Eagle race, quite as in the case of our own, has been made by a few individuals, and their feats are a revelation of the possibilities inherent in the breed rather than chapters from common life. Never shall I forget the pained disappointment of my first Golden Eagle's nest in the Cascade Mountains of Washington. The situation was romantic enough—a ledge of rock some three hundred and fifty feet up on the side of the gulch and seventy-five feet clear of the talus below. At the time of my first visit, May 18th, the nest contained two eaglets about six weeks old. Armed with a stout birchen staff I



GOLDEN EAGLE.
(Aquila chrysaetos).
 $\frac{1}{4}$ Life-size.

worked my way over to a secure footing within a dozen feet of the nest. The remaining distance was a nasty bit of climbing, and I preferred to await the first onslaught of the outraged parents where there would be some chance for defense. Fudge! The fire-eating birds appeared once or twice in the middle distance, but paid no more attention to the peril of their offspring than as if I had been a Magpie, coveting the crumbs from the royal table.

Three weeks later I revisited the nest and put the eaglets to flight. One of the old birds came up and superintended the gliding downfall of the least capable child, but seeing her safely upon the ground immediately went away marmot-hunting in perfect unconcern. If there is one bird above another of a gentle and unsuspecting nature, I judge the Golden Eagle to be that bird. But doubtless this also is a hasty generalization.

On the cliffs of Eocene formation near Fossil, Wyoming, I once located a Golden Eagle's nest. The material of which these hills are composed is a kind of volcanic ash, very friable, and the birds had chosen for their eyrie a cranny in the very middle of one of the wildest of these fossil-bearing cliffs and at a height of some seventy feet. It was practically inaccessible even by rope, for the cliff is perpendicular and deeply fissured by the action of the weather, so that the flying buttresses thus formed are ready to part and crumble at a breath. A pair of Prairie Falcons (quite similar to our Peregrines) had a nest in the "next block" and they appeared to make a practice of persecuting the Eagles just for sport. I saw one of the Eagles launch out from his nest for a course across the broad valley. A Falcon took after him, although the Eagle had a big lead. "A race," thought I. Woof, woof, woof, went the Eagle's wings; clip, clip, clip, clip, went the Falcon's. Inside of a mile the smaller bird made up the distance, scratched His Majesty's crown with his noble toes, and was up in the ether a hundred yards before the Eagle could do a thing. This process was repeated until the gentle pair passed from sight, but a few minutes later the Falcon returned to his perch chuckling hugely.

In Ohio the Golden Eagle is surmised to be only a winter visitor. As such it is not infrequently seen in various parts of the state and is occasionally captured in traps or shot while inspecting some poultry yard or pig-pen. The injuries inflicted by the birds are usually trifling, but might become serious if they were at all numerous.

Professor Jones, in his recent catalog, notes four records for Lorain County within the last five years, and, on the authority of Mr. Harry B. McConnell, three captured near Cadiz within the past three years. An apparent exception to the ranks of winter visitors was one seen by myself on the Lake Erie shore near Lorain on the 29th of August, 1898. The appearance is no evidence of a near breeding range, however, since these birds wander far in search of food, and especially after the young are able to shift for themselves.

Ruby-Crowned Kinglet (*Regulus calendula*)

By Juliette A. Owen

"What wondrous power from heaven upon thee wrought?
What prisoned Ariel within thee broods?"

—*Celia Thaxter.*

"Thou singest as if the God of Wine
Had helped thee to a valentine;
A song in mockery and despite
Of shades and dews and silent night,
And steady bliss and all the loves
Now sleeping in these peaceful groves."

—*Wordsworth.*

Like a bee with its honey, when the Ruby-crown has unloaded his vocal sweetness, there is comparatively little left of him, and, ebullient with an energy that would otherwise rend him, his incredible vocal achievement is the safety valve that has so far preserved his atoms in their Avian semblance.

Dr. Coues says that his lower larynx, the sound-producing organ, is not much bigger than a good-sized pin's head, and the muscles that move it are almost microscopic shreds of flesh. "If the strength of the human voice were in the same proportion to the size of the larynx, we could converse with ease at a distance of a mile or more."

"The Kinglet's exquisite vocalization," he continues, "defies description; we can only speak in general terms of the power, purity and volume of the notes, their faultless modulation and long continuance. Many doubtless, have listened to this music without suspecting that the author was the diminutive Ruby-crown, with whose commonplace utterance, the slender, wiry 'tsip,' they were already familiar. This delightful role, of musician, is chiefly executed during the mating season, and the brief period of exaltation which precedes it. It is consequently seldom heard in regions where the bird does not rear its young, except when the little performer breaks forth in song on nearing its summer resorts."

When Rev. J. H. Langille heard his first *Regulus calendula*, he said, "The song came from out of a thick clump of 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, choo, choo, tseet, tseet, te-tseet, te-tseet, etc., 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."

H. D. Minot says, "In autumn and winter their only note is a feeble lisp. In spring, besides occasionally uttering an indescribable querulous sound, and a harsh, 'grating' note, which belongs exclusively to that season, the Ruby-crowned wrens sing extremely well and louder than such small birds seem capable of singing. Their song begins with a few clear whistles, followed by a short, very sweet, and complicated warble, and ending with notes like the syllables tu-we-we, tu-we-we, tu-we-we. These latter are often repeated separately, as if the birds had no time for a prelude, or are sometimes prefaced by merely a few rather shrill notes with a rising inflection."

Messrs. Baird, Brewer and Ridgway say that "The song of this bird is by far the most remarkable of its specific peculiarities," and Mr. Chapman declares, "Taking the small size of the bird into consideration, the Ruby-crown's song is one of the most marvellous vocal performances among birds; being not only surpassingly sweet, varied and sustained, but possessed of sufficient volume to be heard at a distance of two hundred yards. Fortunately he sings both on the spring and fall migrations."

Mrs. Wright describes the call-note as "Thin and metallic, like a vibrating wire," and quotes Mr. Nehrling, who speaks of the "Power, purity and volume of the notes, their faultless modulation and long continuance."

Mr. Robert Ridgway wrote that this little king of song was one of our very smallest birds he also "ranks among the sweetest singers of the country. It is wonderfully powerful for one so small, but it is remarkable for its softness and sweet expression more than for other qualities. It consists of an inexpressibly delicate and musical warble, astonishingly protracted at times, and most beautifully varied by softly rising and falling cadences, and the most tender whistlings imaginable."

Mr. Ridgway quotes from Dr. Brewer: "The notes are clear, resonant and high, and constitute a prolonged series, varying from the lowest tones to the highest, and terminating with the latter. It may be heard at quite a distance, and in some respects bears more resemblance to the song of the English skylark than to that of the canary, to which Mr. Audubon compares it." Mr. Ridgway continues: "We have never heard the skylark sing, but there is certainly no resemblance between the notes of the Ruby-crowned Kinglet and those of the canary, the latter being as inferior in tenderness and softness as they excel in loudness."

Mr. Audubon had stated: "When I tell you that its song is fully as sonorous as that of the canary-bird, and much richer, I do not come up to the truth, for it is not only as powerful and clear, but much more varied and pleasing to the ear."

While the frequent sacrifice of the adult *regulus* and *regina* through their reckless absorption in their own affairs and obliviousness to the presence of enemies, lends color to the statement that "The spirits of the martyrs will be lodged in the crops of green birds," yet by virtue of a talent other than vocal, they compel few of the human family to echo the remorseful lament of John Halifax, Gentleman,

"I took the wren's nest,
Bird, forgive me!"

For but few of the most ardent seekers have succeeded in locating the habitation of the fairy kinglet, and the unsuccessful majority perforce exclaim with Wordsworth,

"Oh, blessed bird! The earth we pace
Again appears to be
An unsubstantial, fairy place,
That is fit home for thee!"

The Gadwall (*Chaulelasmus streperus*)

Synonym.—GRAY DUCK.

Description.—*Adult male*: Head and upper neck buffy, spotted or streaked with dusky; top of head darker brownish; breast and lower neck all around dusky and white, each feather with five to eight concentric half-rings of alternating colors, presenting a handsomely scaled appearance; sides, back and scapulars similarly variegated with dusky and white, buffy, or ochraceous-white, in semi-concentric, zig-zag, or fine, wavy lines; the posterior inner scapulars, not thus marked, dull cinnamon-brown, darker centrally and edged with lighter, lanceolate; lower back dusky, becoming velvety black on lower tail-coverts and around on sides of crissum; middle wing-coverts bright chestnut; the lesser dull brownish gray, the greater velvety black; speculum white, rather narrowly, the outer secondaries black and dusky, the bounding tertials plain fuscous; belly white or grayish, obscurely barred posteriorly; axillars and lining of wings white; bill blue-black; legs and feet dull orange, the webs dusky. *Adult male in breeding season*: "Similar to winter male, but colors duller, crown dusky, rump and breast tinged with rusty, and under parts more spotted with dusky" (Ridgway). *Adult female*: "Head and throat as in the male; back fuscous margined with buffy; breast and sides ochraceous buffy, thickly spotted with blackish; belly and under tail-coverts white, more or less thickly spotted with blackish; little or no chestnut on wing-coverts; speculum ashy gray and white; axillars and under wing-coverts *pure white*" (Chapman). (No specimen in O. S. U. collection.) Length 19.00-22.00 (482.6-558.8); wing 10.60 (269.2); tail 4.50 (114.3); bill 1.67 (42.4); tarsus 1.60 (40.6). Female smaller.

Recognition Marks.—Something under Mallard size; *white speculum* distinctive.

Nest, on the ground near water, of grasses lined with feathers. Eggs, 8-12, pale buffy or clay-colored. Av. size, 2.09x1.57 (53.1x39.9).

Range.—Nearly cosmopolitan. In North America breeds chiefly within the United States.



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(GADWALL.
(Anas strepera).
Nearly $\frac{1}{2}$ Life-size.

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The apparent scarcity of this species is doubtless to be attributed in part to its excessive timidity and cunning secretiveness. But perhaps at best it is to be regarded as the least common of those river ducks whose appearance in our state is anything more than accidental.

The gadwall remains, for the most part, closely secreted by day in the reeds or high grasses which border our lakes and river lagoons, venturing out only at dusk and feeding throughout the night. Its food seems to be largely vegetable, the leaves and roots of aquatic plants and river flotsam, obtained by diving or dabbling. It is not, however, averse to varying its diet with occasional insects and small fish. Not infrequently it feeds at considerable distance from water, in stubble-fields and the like, after the fashion of the Mallard. Such visits are, however, strictly nocturnal. Because of its careful feeding the flesh of this duck is highly prized for the table.

The nesting of the Gadwall has been reported by Mr. Charles Dury from the Grand Reservoir. It breeds sparingly wherever found, but its better known haunts are the sloughs of the northwestern prairie states. The nest is said to be always placed on dry ground, but not very far from water. "A hollow is scooped in the ground and well lined with strips or pieces of reeds, bits of dry grass and weed stems, or whatever material can be most easily gathered in the vicinity, mixed with down from the bird's breast and profusely lined with dark gray down around the eggs." Ten or eleven eggs are commonly laid. The birds are close sitters, but even then great care must be taken to distinguish them from the more common Baldpate.

Though seemingly as well fitted for the struggle for existence as any of its fellows, the gadwall apparently was never very abundant in any part of its range. Formerly it was not uncommon in New England and in the Middle and Eastern States, but for a quarter of a century or more the bird has been practically unknown to the sportsmen of the Atlantic seacoast, though still found in considerable numbers in Texas, and other Western States. I have never seen the gadwell in large flocks, but usually singly or by twos or threes in company with ducks of other species, and such seems to have been the experience of many other observers. It is a denizen of fresh water and is fond of shallow lakes and ponds, where its habits somewhat resemble those of the mallard. It is a good diver when the need arises, but usually finds little occasion for the exercise of its skill, since it frequents the shallow margins of ponds and lakes in company with mallards and other species. I have frequently seen the gadwall literally stand on its head in shallow water grubbing for food on the muddy bottom, when only its feet and the tip of its tail were sticking out. Its bill of fare is varied and includes aquatic grasses, seeds, nuts, insects, mollusks, in short almost any edible substance it can obtain.

The Song Sparrow's Appeal

By George B. Griffith

Naturalists tell us that of all creatures below man, the largest animal brain in proportion to the size of the body is found in horses and song-birds. Whatever sense beyond instinct the little creature of whom we write may have had, something, at least, told it that it could obtain help at human hands.

A little sparrow the past season entered the kitchen of one of our country homes, and perched upon the windowsill in evident distress. Its feathers were ruffled, and its head ever and anon turned curiously around and up, as if looking at something out of the house and above the window.

In and out it continued to hop, without intermission, regardless of all offers of food, until the shutters were closed at twilight, and various were the surmises as to the cause of its strange conduct.

Through the course of the following day the same scene was enacted, without any clue appearing as to the cause of its distress.

At length, on the third morning, the mute petition for aid still continuing, one of the family, bethinking herself of the bird's curious upturning of the head, caught a new idea from it. Perhaps she might have a nest in the ivy that encircled the window, and something might be amiss with its little household.

Going to the second story and looking down, the cause of the trouble was at once manifest. A thick limb of the ivy had become loosened by the wind, and fallen directly across the petitioner's nest. It was too heavy for the bird to remove, and offered an insuperable difficulty in the way of her getting in to feed her young—now almost lifeless.

The branch was quickly removed, when the mother-bird, pausing only for a brief inspection of her brood, was on the wing in search of food. Her mate soon joined her, and both were busy as quick wings, worked by hearty good will, could make them.

Once only did the mother pause in her work—as if desirous to give expression to her gratitude, she reappeared upon the window-seat, and poured forth a sweet and touching song, as of thankfulness to her benefactors.

She returned three successive seasons, to be noticed and fed at the same spot where her acquaintance and familiarity with man first commenced.

We will add another similar incident, which is also absolutely true.

The correctness is vouched for by Mr. George Babbitt, late captain on Gen. Gresham's staff, of which he himself was a witness.

During the fierce cannonading in one of the battles of the Civil War, a small bird came and perched upon the shoulder of an artilleryman—the man designated, we believe, as "No. 1," whose duty it is to force down the charge after the ammunition is put in the gun. The piece was a "Napoleon," which makes a very loud report, and the exact scene of this occurrence was at a place called "Nickajack." The bird perched itself upon this man's shoulder and could not be driven from

its position by the violent motions of the gunner. When the piece was discharged, the poor little thing would run its beak and head up under the man's hair at the back of the neck, and when the report died away would resume its place upon his shoulder. Captain Babbitt took the bird in his hand, but when released it immediately resumed its place on the shoulder of the smoke-begrimed gunner. The singular and touching scene was witnessed by a large number of officers and men. It may be a subject of curious inquiry, what instinct led this bird to thus place itself. Possibly, frightened at the violent commotion caused by the battle, and not knowing how to escape or where to go, some instinct led it to throw itself upon the gunner as a protector. But, whatever the cause, the incident was a most beautiful and pleasing one to all who witnessed it.

European Widgeon (*Mareca penelope*)

Range: Occurs occasionally in winter and in migration from Wisconsin, Michigan, New York, Nova Scotia, Newfoundland, and Greenland south to Nebraska, Missouri, Indiana, Ohio, North Carolina, and Florida, and in Alaska, British Columbia and California.

In general appearance the European widgeon rather closely resembles our baldpate. The males are easily identified, but a rather careful comparison is needed to distinguish the females. For one thing the head and throat of the female European widgeon are browner than the corresponding parts of our baldpate. A better distinguishing mark, however, is found in the axillars, or long feathers under the wings of both sexes, as noted by Bangs. In our baldpate these are white, while in the European widgeon they are gray. Particular attention is directed to these distinguishing marks, as sportsmen should know the two birds apart, and thus be enabled to record the fact when they bring to bag the European widgeon. The bird has long been known to occur in our waters, but its presence has been thought to be only casual. Of late years it appears to seek our shores in increasing numbers; at all events it is being reported oftener. This is probably due less to an actual increase of numbers than to the fact that sportsmen are becoming better acquainted with its appearance. The bird may indeed prove to be, as Forbush believes, a permanent resident of North America. There are more records of its occurrence along our Atlantic coast than elsewhere, but the bird has been found also in Nebraska, California and Alaska. The habits of the European widgeon while in our waters offer nothing particularly worthy of note, as distinguished from those of our own baldpate. The call note of the male, Saunders tells us, is a shrill whistling "whe'-you," whence the local names "whewduck" and "whewer."

The American Dipper or Water Ouzel

(*Cinclus mexicanus unicolor*)

By C. Hart Merriam

No one who visits the mountainous region of western North America should fail to visit some of the mountain streams with their cascades and pools and there study the antics of the American Dipper or Water Ouzel. The song of this happy bird—voiced even in winter—is well worthy the effort made to hear it. The Dipper loves only the mountains; it is not a bird of the level plains and it may almost be said that it never visits these lowlands, even in the severest weather. Its country extends from the Youkon Valley, on the north, to Guatemala, on the south, and in the United States it may be found from near the Pacific ocean eastward to the base of the eastern slope of the Rocky mountains. Mr. Lord, in his "Birds of Oregon and Washington," says: "We all ought to know the thrice fascinating ways of this bird, which belongs exclusively to our side of the continent."

Our own country is not the only one that is favored with this interesting bird, which belongs to a remarkable group that has sorely puzzled the ornithologist. He has been unable to place it in any family of birds with other species. The Dippers form a distinct family (*Cinclidae*), which seems to have no very near allies. There are perhaps ten or twelve species which inhabit the mountainous regions of the northern hemisphere.

The name Dipper was first given to this bird by the English ornithologist, Bewick, and refers to its habit of standing on some perch and tilting its body in such a manner as to give a nodding motion to its head. Bewick himself says of the Dipper: "It may be seen perched on the top of a stone in the midst of the torrent, in a continual dipping motion, or short courtesy often repeated." Probably because of its habit of seeking food in the water, as the common crow does upon the land, the Dipper is sometimes called the Water-crow.

The Dipper has been called a "dumpy" bird, but it is surely the opposite of what that word ought to mean. It is a bird of great energy and activity and in the romantic places that it inhabits it seems to delight in leading an observer to following it along the banks of some canyon stream. Chirping, it will hop from stone to stone as the observer follows. With a jerking motion of the tail it will continue leading until it reaches a pool, perhaps formed at the base of a cascade at the upper end of the chasm. Here it will deliberately wade into the water and disappear, to reappear some distance away, and probably on the opposite side of the pool. Mr. Lord says: "It is truly a 'queer' bird, and if one did not know its habits and should some day see him plunge into a swift mountain stream and disappear, he might suppose he had witnessed a case of desperate bird-suicide. But did he know this odd creature's ways, he would look for it to come up and land on a rock at some point quite well below its place of plunge." Not only does the Dipper enter the water for the purpose of gathering food from the bottom of



the stream or pool, but apparently also to satisfy its love of water in the pool, "the rushing current and the dashing cascade."

Its nest is also built where not only the parents may enjoy the sound of the falling waters, but also where the young may be trained and fed in the environment which they will occupy ever afterwards. The food of the Dipper chiefly consists of the mollusks and fresh water insects, both in their larval and natural states, that it finds as it makes its way along the bottom by the combined action of its wings and feet. It also feeds upon insect life upon the shore or that which it may catch upon the surface of the water, as it stands upon some stony perch.

The nest of the Dipper is usually placed in a niche of the rock slightly above the stream or behind some cascade. The materials used vary somewhat and are usually such as are to be found in the immediate vicinity. It is described as a cup-shaped mass of grass and moss lined with dry leaves and fibers. It is covered with a dome of moss arranged in such a manner as to completely cover the nest except for a small opening through which the bird passes in and out. The moisture of the locality keeps the exterior of the nest green, causing it to look like a tuft of moss—an excellent protection from enemies.

Mr. Cooke, in "The Birds of Colorado," says: "The American Dipper remains near open water all the year. In winter this brings it down to the foothills and larger mountain streams, usually between six thousand and nine thousand feet, but it has been noted clear down to the plains. Common all winter in the Canyon of the Grand River as far down as Glenwood Springs, at about five thousand five hundred feet, it moves back into the mountains as soon as the streams thaw out in April and spends the summer from eight thousand feet to just below the timber-line. There is no record of any nest being found lower than eight thousand feet."

Steller's Eider (*Polysticta stelleri*)

Range: Breeds from Point Barrow, Alaska, to northern coast of Siberia and south to Aleutian Islands; winters on Aleutian Islands and Kenai Peninsula, Alaska, and south on the Asiatic coast to Kuril Islands.

Steller's hardy and beautiful duck is American by virtue of our possession of Alaska, for even in winter it does not venture south as far as either the Atlantic or the Pacific Coast States. According to Nelson the coast and islands of Bering Sea constitute the eastern range of this eider, and it breeds by tens of thousands on the North Siberian coast. Nelson found these ducks rather numerous in the quiet waters of bays and fjords of the Aleutian Islands the last of May, but they were very shy and he failed to secure a single individual. They winter in such of the Alaskan bays as are free from ice, and at this season the natives who depend upon them for winter food kill great numbers. This eider is a true sea duck and Turner notes that it keeps well off shore except in boisterous weather. Needless to say then that its food consists of animal life gleaned from the sea and that the bird is a skillful diver, reaching great depths and staying under a long time, as do eiders generally.

The Swainson's Warbler (*Helinaia swainsoni*)

By Mary Hyatt

Length: 5½ inches.

Swainson's Warbler has a peculiar and interesting history. This species has the honor of being discovered, and then practically lost to sight for about forty years.

In 1832, the Reverend John Bachman discovered this warbler, near Charleston, South Carolina. The specimens were placed in the hands of Audubon, who recognized that a new species had been found, and gave it the Latin name that it now bears. In his "Birds of America," Audubon quotes the following record of Mr. Bachman: "I was first attracted by the novelty of its notes, four or five in number, repeated at intervals of five and six minutes apart. These notes were loud, clear, and more like a whistle than a song. They resembled the sounds of some extraordinary ventriloquist in such a degree that I supposed the bird much further from me than it really was; for after some trouble caused by these fictitious notes, I perceived it near to me, and soon shot it."

"The form of its bill I observed at once to differ from all other known birds of our country, and was pleased at its discovery."

Even at the present time, Swainson's warbler may be considered common in only certain localities within its range, which may be given as including the southern United States northward to North Carolina and Missouri and east of Texas. It winters in the tropics.

The habits of this warbler make it a difficult bird to find. It is fastidious, and as Mr. Brewster says, "four things seem indispensable to his existence, viz.: water, tangled thickets, patches of cane, and a rank growth of semiaquatic plants." Such localities are not only difficult to find, but also uninviting fields to explore.

"It is ventriloquial to such a degree that there is often great difficulty in tracing it to its source. You advance confidently enough at first, when suddenly the sound comes from behind you. Retracing your steps, the direction is again changed. Now it is to the right, shortly after to the left; one moment in the tree-tops overhead, the next among the bushes almost at your feet."

The Goldfinch

By Herbert Randall

Called also Wild Canary and Yellowbird.

Length: 5 inches. About 1 inch smaller than the English Sparrow.

Color: Winter: Male—Olive drab, shoulders and throat yellow, brownish white underneath. Summer: bright yellow except on crown, frontlet, wings and tail, which are black. Wings banded in white. Tail has white on inner webs. Female—Brownish olive above, yellowish white beneath.



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SWAINSON'S WARBLER.
(Helinaia swainsonii).
About Life-size.

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Range: Common in North America from the tropics to the Fur countries and west to California.

Migrations: May, October. Common summer resident, often seen in winter as well.

Does every child know that the goldfinch has a sparrowy look in the winter season? And he should have, for he belongs to the same family. His plumage in the winter months is a blending of dull grays and browns, quite unlike the brilliant yellow and jet black of his summer suit. In April as he comes from the thick woods, where he has wintered, he appears in breeding plumage. These changes of plumage are effected by moults which take place in the autumn and again in early spring. There is less change in the plumage of his mate; the olive green and yellow of her summer dress is replaced by the dull grays and browns of winter.

Many boys and girls call the goldfinches wild canaries. They are not canaries but finches; for their habits of song, flight and food-getting are very much like the sparrows and finches. They also are known erroneously as thistle birds, and yellowbirds.

Watch a pair of them feeding upon the seeds of the thistle, wild lettuce and mustard. Do you know of a prettier moving picture as they flit from one stalk to another, illuminating each separate plant with the shining gold of their well-formed bodies? Last summer a pair of them came almost daily to the vegetable oyster plants that grew outside our garden fence. I loved to watch them pull the slender, chaffy seeds from the long capsule, taking with each billful the seed part and letting the chaff drop to the ground. Their food consists chiefly of all kinds of weed seeds, especially the seeds of ragweed, mullein, dandelion and sunflower. In summer they eat some insects, such as plant lice and young grasshoppers.

Everybody loves the goldfinch's song. It is a sweet, spontaneous medley of rippling slurs and trills that charms the most wayward ear. Listen to him as he sits on the garden fence singing his mating song, and when he goes bounding over the frozen fields calling "per-chi-o-re," and again when he settles down in a patch of weeds uttering his feeding notes, "twee, twee, twee, twee."

Have you ever seen the goldfinch's nest? They build late; some time after the fourth of July. Collecting some bits of bark, grass fibers and down, the female forms them into a compact waterproof nest. This she lines with plant down—thistle, lettuce and dandelion silk. What a beautiful thing it is! So skilfully made and formed, as if it had grown into shape like the saucer of an acorn! In this almost water-tight, silk-lined nest from three to six bluish-white eggs are laid. The eggs are quite small and a spotless white.

The Shoveler (*Spatula clypeata*)

Synonyms.—SPOON-BILL DUCK; BROAD-BILL.

Description.—*Adult male*: Head and neck sooty black, overlaid, especially above, with glossy green and glancing metallic blue or purple; lower neck and fore-breast pure white; lower breast, belly, and sides purplish chestnut, the longer side-feathers dusky-barred; back, narrowly, greenish dusky, becoming greenish black on rump and behind, and glossy green on sides of upper tail-coverts; crissum black, separated from belly anteriorly by white, finely undulated with dusky; white flank-patches; inner scapulars white, and inner tertaries white-striped; wing-coverts and outer webs of outer tertaries light grayish blue; the posterior row of coverts greenish dusky at base, broadly white-tipped; speculum glossy green bounded on either side by dusky; primaries dusky; axillars and lining of wing white; bill spatulate, the upper mandible much broader at tip than lower and enclosing it; lamellæ prominent, deep black; feet orange-red; iris brown. *Adult female*: Wings much as in male, but duller; scapulars like back and tertaries not striped; upper parts, except head and neck, plain fuscous glossed posteriorly with greenish; remaining plumage buffy or buffy white, spotted with brownish fuscous; head and neck narrowly streaked with dusky; lower breast tinged with brownish; bill brown above, orange below. *Young male*: Like adult female but colors heavier, and belly tinged with chestnut. *Young female*: Similar to adult but wing-coverts dull slaty gray, only faintly tinged with bluish or greenish; speculum not so extensively glossy green. Length 17.00-21.00 (431.8-533.4); wing 9.00-10.00 (228.6-254.); tail 3.00-3.50 (76.2-88.9); culmen 2.50-2.90 (63.5-73.7); breadth of bill near tip 1.20 (30.5); tarsus 1.50 (38.1).

Recognition Marks.—Smaller than mallard; bill broadened at tip distinctive; male with white breast and rich chestnut belly.

Nest, on the ground in or near swamp, lined with weed-stalks and grasses, or reeds. *Eggs*, 6-10, pale bluish or greenish gray. Av. size, 2.12x1.48 (53.9x37.6).

Range.—Northern Hemisphere. In North America breeding from Alaska to Texas; not abundant on the Atlantic Coast north of the Carolinas.

Fortunately the Spoonbill Duck bears about with it a ready mark of identification, so that the diminishing numbers which appear in March or early April do not escape the notice of the ornithologist. The broad flattened bill indicates that its possessor is a gourmet of discriminating taste and unique opportunity. Most of the river ducks are obliged to depend more or less upon the senses of touch and taste rather than sight as they encounter food below the surface of the water, but in the case of the Shoveler these senses are developed to an extraordinary degree. The bird evidently feeds somewhat after the manner of the Right Whale, by filling its mouth at random and then ejecting the water through the mouth-parts, to retain in the lamellæ whatever is of value. The tongue of the duck is also modified, being provided with specialized taste papillæ to enable it to discriminate meat from poison; while as for plain dirt, the bird is probably willing to take its traditional peck any given day. Insects and vegetable matter, as well as

SHOVELLER
(*Spatula clypeata*)
About $\frac{1}{2}$ Life-size.



minute forms of life of all kinds make up this lowly epicure's fare, and its flesh is everywhere held in high esteem.

During migrations the Shoveler appears usually in small flocks of its own species, or in company with Bluebills. It is occasionally seen upon the smaller ponds and rivers, and in its summer and winter haunts will explore the tiniest ditches and pools.

Dr. Wheaton supposed that these birds nested in the northern part of the state, and they may have done so; but their present breeding range lies almost entirely within the northern tier of western states and further north to Alaska. The nest is an unpretentious depression lined with grasses and down, and is placed either near water or remote from it, on a tiny islet, in a convenient corner of the swamp, or anywhere in open country.

The Shoveler is cosmopolitan in its range and, while no longer common in the eastern states, it is still numerous in several states of the far west where it breeds. The Shoveler likes reedy ponds and sloughs, where it grubs in the shallows, and obtains a rich feast of insects, tadpoles, worms, and larvae of various kinds, which its shovel-shaped bill seems expressly designed to enable it to scoop up and strain out of the reedy ooze. By many it is accounted one of our best table-ducks. And as it is not shy and is often killed in large numbers, it has suffered a notable decrease in numbers. The Shoveler is a swift flier and is capable of enduring flight, as is apparent from the fact that annually it finds its way from Alaska over the 2,000 miles of intervening ocean to the Hawaiian Islands. There it winters, and the few that escape the ardent pursuit of the island sportsmen retrace their way across the tractless ocean in spring for the purpose of nesting.

Spectacled Eider (*Arctonetta fischeri*)

Range: Breeds in Alaska from Point Barrow to mouth of Kuskokwim, and on the northern coast of Siberia west to mouth of Lena River; winters on Aleutian Islands.

Nelson's observations show this species to be strictly limited to the salt marshes bordering the east coast of Bering Sea, and thus favoring the shallow, muddy, coast waters, which appear so distasteful to Steller's eider. The same observer estimates that, all told, the spectacled eider does not occupy over 400 miles of coast line in the breeding season, while the width of the breeding ground will not exceed one or two miles. Writing as long ago as 1881, Nelson said of the struggle for existence the species was even then undergoing: "The species has to contend against thousands of shotguns in the hands of the natives. The diminution in all the species of waterfowl breeding along the coast is more and more marked each season, and while this may mean a desertion of one region or another in the case of the great majority of geese and ducks, yet for such narrowly-limited species as the spectacled eider, and to a less extent the emperor goose, this diminution is but the beginning of extermination; moreover, the present scarcity of large game along the coast is having great effect in causing the natives to wage a continually increasing warfare upon the feathered game."

The Rivoli Hummingbird (*Eugenes fulgens*)

By Lynds Jones

Length: 4 inches.

In that wonderful and magnificent book "A Monograph of the Trochilidæ," the family of hummingbirds, Mr. John Gould, the author, writing of his experiences with these mites of bird life, says:

"How vivid is my recollection of the first hummingbird which met my admiring gaze! With what delight did I examine its tiny body and feast my eyes on its glittering plumage! These early impressions, I well remember, gradually increased into an earnest desire to attain a more intimate acquaintance with the lovely group of birds to which it pertained. During the first twenty years of my acquaintance with these wonderful works of creation my thoughts were often directed to them in the day, and my dreams have not unfrequently carried me to their native forests in the distant country of America."

These birds have ever been an inspiration to the poet. How beautiful are these lines of Maurice Thompson, addressed to the hummingbird:

Zephyr loves thy wings
Above all lovable things,

And brings them gifts with rapturous murmurings.

Thine is the golden reach of blooming hours;
Spirit of flowers!

Thou art a winged thought
Of tropical hours,

With all the tropics' rare bloom-splendor wrought;
Surcharged with beauty's indefinable powers,
Angel of flowers!

It seems cruel and strange that any person should kill these tiny creatures especially for ornamental purposes. They are the gems of nature, yet one day, in the year 1888, over twelve thousand skins of hummingbirds were sold in London. "And in one week during the same year there were sold at auction, in that city, four hundred thousand hummingbirds and other birds from North and South America, the former doubtless comprising a very considerable percentage of the whole number." When we remember that the hummingbird lays but two eggs, the rapid extermination of some of the species is evident unless this wholesale slaughter is stopped. Even the tropics, where bird life is wonderfully abundant, cannot support such wanton destruction.

The Rivoli, or the Refulgent hummingbird, as it is frequently called, has a very limited range. It is found in the "mountains of southeastern Arizona, southwestern New Mexico and over the table lands of Mexico," southward to Nicaragua. It is one of the largest and most beautiful of the hummingbirds that



RIVOLI HUMMINGBIRD
(*Eulampis fulgens*)
About Life-size

frequent the United States. Its royal appearance led Lesson, in the year 1829, to name it Rivoli, in honor of M. Massena, the Duke of Rivoli. It is noted "for the beauty of its coloring and the bold style of its markings."

Mr. Salvin, writing of the pugnacious character of this species, says: "Many a time have I thought to secure a fine male, which I had, perhaps, been following from tree to tree, and had at last seen quietly perched on a leafless twig, when my deadly intention has been anticipated by one less so in fact, but to all appearances equally so in will. Another hummingbird rushes in, knocks the one I covet off his perch, and the two go fighting and screaming away at a pace hardly to be followed by the eye. Another time this flying fight was sustained in midair, the belligerents mounting higher and higher, until the one worsted in battle darts away seeking shelter, followed by the victor, who never relinquishes the pursuit till the vanquished, by doubling and hiding, succeeds in making his escape." Not only do they resent the presence of their own kind, but also of other hummingbirds.

Mr. H. W. Henshaw, who was the first scientist to discover that the Rivoli was a member of the bird fauna of the United States, thus describes its nest: "It is composed of mosses nicely woven into an almost circular cup, the interior possessing a lining of the softest and downiest feathers, while the exterior is elaborately covered with lichens, which are securely bound on by a network of the finest silk from spiders' webs. It was saddled on the horizontal limb of an alder, about twenty feet above the bed of a running mountain stream, in a glen which was overarched and shadowed by several huge spruces, making it one of the most shady and retired nooks that could imagine."

The note of this bird gem of the pine-clad mountains is a "twittering sound, louder, not so shrill and uttered more slowly than those of the small hummers."

As the Rivoli hovers over the mescal and gathers from its flowers the numerous insects that infest them; or, as it takes the sweets from the flowers of the boreal honeysuckle, one is reminded of the words of the poet:

"Art thou a bird, a bee, or butterfly?"
"Each and all three—a bird in shape am I,
A bee collecting sweets from bloom to bloom,
A butterfly in brilliancy of plume."

The Spotted Sandpiper or “Peet-Weet”

By Thomas Nuttall

The Peet-weet is one of the most familiar and common of all the New England marsh birds, arriving along our river shores and low meadows about the beginning of May. As soon as it arrives on the coast small roving flocks are seen at various times of the day, coursing rapidly along the borders of our tide-water streams. Flying swiftly and rather low, in circular sweeps along the meanders of the rock and river, and occasionally crossing from side to side, they now present a more sportive and cheerful mien than they assume at the close of autumn when foraging becomes less certain. While flying out in these wild circuits, agitated by feelings superior to those of hunger and necessity, we hear the shore reecho the shrill and rapid whistle of 'weet, 'weet, 'weet, 'weet, the note usually closing with something like a warble as they approach their companions on the strand. The cry then varies to peet, 'weet, 'weet, 'weet, becoming high and gradually declining into a somewhat plaintive tone. As the season advances our lively little marine wanderers often trace the streams some distance into the interior, resting usually in fresh meadows along the grass, sometimes even near the house; and I have seen their eggs laid in a strawberry bed where the young and old, pleased with the protection afforded them, familiarly fed and probed the margin of the adjoining duck-pond for their usual fare of worms and insects.

These birds have the very frequent habit of balancing or wagging the tail, in which even the young join as soon as they are fledged. From the middle to the close of May the pairs, receding from their companions, seek out a place for the nest, which is always in a dry, open field of grass or grain, sometimes in the seclusion and shade of a field of corn, but most commonly in a dry pasture contiguous to the seashore. In some of the solitary and small sea islands several pairs sometimes make their nests near each other, in the immediate vicinity of the noisy nurseries of the quailing Terns.

On being flushed from her eggs the female goes off without uttering any complaint, but when surprised with her young she practices all sorts of dissimulation common to many other birds, fluttering in the path as if badly wounded, and generally proceeds in this way so far as to deceive a dog and cause it to overlook her brood for whose protection these instinctive arts are practiced. Nor are the young without their artful instinct, for on hearing the reiterated cries of their parents they scatter about and squatting still in the withered grass almost exactly their color, it is with careful search very difficult to discover them, so that in nine times out of ten they would be overlooked.

At a later period the shores and marshes resound with the quick, clear and oft-repeated note of *peet-weet, peet-weet*, followed up by a plaintive call of the young of *peet, peet, peet, peet*. If this is not answered by the scattered brood a reiterated '*weet, 'weet, 'weet, 'wait, 'wait, 'wait*' is heard, the voice dropping on the

final syllables. The whole marsh and shore at times echoes to this loud, lively and sometimes solicitous call of the affectionate parents for their brood. The cry, of course, is most frequent toward evening, when the little family, separated by the necessity of scattering themselves over the ground in quest of food, are desirous of again reassembling to roost.

The young, as soon as hatched, run about the grass and utter from the first a weak, plaintive peep, at length more frequent and audible, and an imitation of the whistle of *peet-weet* is almost sure to be met with an answer from the sympathizing broods, which now throng our marshes. When the notes appear to be answered the parents hurry and repeat their call with great quickness. Young and old previous to their departure frequent the seashores, but never associate with other kinds, nor become gregarious, living always in families till the time of their departure, which usually occurs about the middle of October.

Redhead (*Marila americana*)

Range: Breeds from southern British Columbia, central Alberta, central Saskatchewan, and southwestern Keewatin south to southern California, Utah, southern South Dakota, southern Minnesota, and southern Wisconsin; winters from southern British Columbia, Utah, New Mexico, Kansas, Illinois, Maryland, Delaware, and Massachusetts south to southern Lower California, central Mexico, and Florida.

In the minds of epicures and sportsmen the redhead is closely associated with the canvas-back. Both species often frequent the same feeding grounds and, as the redhead is as expert at diving as its cousin, it has no difficulty in obtaining its share of the coveted wild celery. This naturally imparts to its flesh the same highly prized flavor which constitutes the canvas-back's chief claim to distinction, and he must possess a delicate taste indeed who can distinguish the difference. Yet, at times there is much in a name and our redhead pays for his taste for celery and his general undesirable likeness to the canvas-back by being sold in the market as bona fide canvas-back. The redhead is much more numerous east of the Rocky Mountains than to the west of that chain and, while many visit the bays and estuaries of the east coast, the duck's preference appears to be for inland lakes and ponds where it subsists upon various aquatic plants, as also upon insects, snails, acorns, beechnuts, and in fact, upon almost anything that is edible by waterfowl standards. Under such circumstances its flesh is no whit better than that of a dozen other species. Of late years a serious reduction of the numbers of this fine fowl has occurred, but it is believed that the abolition of spring shooting will materially aid in checking further decrease.

The Hermit Thrush

By Harry Edward Miller

Thou dweller in the quiet wood;
Thou singer of ecstatic mood,
 Not in thy pure theme is heard
The lark in song above his brood;
The English blackbird's message good;
Or the nightingale's interlude,
 That have oft the listener stirred.

But here in forest land remote
The new world knows thy magic throat;
 That music of a soul serene;
That spirit which in tranquil note
Doth through the mystic forest float
In melody that always must denote
 Word from a land no eyes have seen.

Under the lofty Druid trees,
No sweeter sound upon the breeze
 Is borne like his lyric-anthem rare!
The lark is on the open leas;
In clover field the hum of bees;
But the woodland old this poet sees,
 Who sings of a far country fair.

Who tells as one who has returned
From where celestial secrets learned,
 He breathes upon the forest ways;
He speaks as one far more concerned
Of countries we dimly have discerned;
And his note our thought hath turned,
 And lifted up our wistful gaze.

Audubon's Oriole (*Icterus audubonii*)

The name oriole is from the French word oriol, which is a corruption of the Latin word aureolus, meaning golden. The name was originally applied to a vire, but is now used in a much wider sense and includes a number of birds.

The true orioles are birds of the Old World and are closely related to the thrushes. It is said that no fewer than twenty species from Asia and Africa have been described.

The orioles of America belong to a very different group of birds and are related to our blackbirds, the bobolink and the meadowlark. All these birds belong to the family Icteridae, the representatives of which are confined to the New World.

The genus of orioles (*Icterus*) contains about forty species, chiefly natives of Central and South America. The plumage of nearly all the species is more or less colored with shades of yellow, orange and black.

Audubon's Oriole, the male of which we illustrate, has a very limited range, including the "valley of the Lower Rio Grande in Texas and southward in Mexico to Oaxaca." It is more common in central and eastern Mexico than in any other part of its range. In the summer, it only frequents the denser forests of its Texas home, but during the winter months it will approach the inhabited regions.

The Mexicans capture these Orioles and offer them for sale. In captivity, however, they seem to lose their vivacity and will not sing. "When free their usual song is a prolonged and repeated whistle of extraordinary mellowness and sweetness, each note varying in pitch from the preceding."

It is said that this beautiful bird is frequently called upon to become the foster parents of the offspring of some of those birds that have neither the inclination to build their own nests or to raise their own families. The ingenious nests of the orioles seem to be especially attractive to these tramp birds which possess parasitic tastes.

The red-eyed cowbird (*Collothrush robustus*), of the Southern United States and Central America, seems to be the pest that infests the homes of Audubon's Oriole. It has been stated that the majority of the sets of eggs collected from the nests of this Oriole contain one or more of the cowbird's eggs. It is also probable that many of the Oriole's eggs are destroyed by the cowbirds as well as by other agencies, and thus, though the raising of two broods the same season is frequently attempted, the species is far from abundant.

Regarding the nesting habits of the Audubon's Oriole, Captain Charles Bendire says, "The nest of this Oriole is usually placed in mesquite trees, in thickets and open woods, from six to fourteen feet from the ground. It is a semipensile structure, woven of fine, wire-like grass used while still green and resembles those of the hooded and orchard orioles, which are much better known. The nest is firmly attached, both on the top and sides, to small branches and growing twigs and, for the size of the bird, it appears rather small. One now before me measures three inches in depth inside by about the same in inner diameter. The rim of the nest is somewhat contracted to prevent the eggs from being thrown out during high winds. The inner lining consists of somewhat finer grass tops, which still retain considerable strength and are even now, when perfectly dry, difficult to break. Only a single nest of those found was placed in a bunch of Spanish moss and this was suspended within reach of the ground; the others were attached to small twigs."

Violet Green Swallow (*Tachycineta thalassina lepida*)

By Lynds Jones

Length: About 6 inches.

The Violet-green Swallow is one of the most beautiful of the Hirundinidæ, or family of swallows. There are about eighty species of the family, and they are world-wide in their distribution. These tireless birds seem to pass almost the entire day on the wing in pursuit of insects, upon which they feed almost exclusively. They can outfly the birds of prey, and the fact that they obtain their food while flying enables them to pursue their migrations by day and to rest at night.

The Violet-green Swallow frequents the Pacific Coast from British Columbia on the north, southward in the winter to Guatemala and Costa Rica. Its range extends eastward to the eastern base of the Rocky Mountains.

Its nest, which is made of dry grass and copiously lined with a mass of feathers, is variously placed. Sometimes the knot-holes of oaks and other deciduous trees are selected. They have also been known to use the deserted homes of the cliff swallow. Mr. Allen states that they "nest in abandoned woodpeckers' holes, but at the Garden of the Gods and on the divide between Denver and Colorado City, we found the building in holes in the rocks." This swallow is quite common in western Colorado, where they have been observed on the mountain sides at an altitude of eight to over ten thousand feet. In "The Birds of Colorado," Mr. W. W. Cooke says: "A few breed on the plains, but more commonly from six to ten thousand five hundred feet" above the level of the sea. He also adds that they begin laying late in June or early in July and desert the higher regions in August and the lower early in September.

The notes of this exquisite bird are described by an observer, who says that they "consist of a rather faint warbling twitter, uttered as they sit on some low twig, their favorite perch; when flying about, they seem to be rather silent."

The violet-green swallows, like their sister species, usually nest and migrate in colonies.

Hudsonian Godwit (*Limosa haemastica*)

Range: Breeds from the lower Anderson River southeast to central Keewatin; winters in Argentina, Patagonia and the Falkland Islands.

Nothing less than two continents suffice to satisfy the roving disposition of the Hudsonian godwit which, according to Cooke, probably breeds on the barren ground from the mouth of the Mackenzie to Hudson Bay. The species winters in Argentina and Chile and after leaving our northeast coast probably reaches winter quarters by an all-sea route. On the return journey in spring the godwit reaches Texas in April, and follows up the Mississippi Valley, thus, in a general way, duplicating the route of the golden plover. The Hudsonian godwit has been greatly aided in its struggle with fate in the shape of merciless sportsmen by the fact that its breeding grounds are in a distant and desolate



VIOLET-GREEN SWALLOW

(*Tachycineta thalassina*)

Life-size.

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region where its parental duties are little interfered with. Though today more numerous than the marbled godwit, its destiny is equally sure and almost as imminent. Nothing short of absolute protection for a term of years will save the species from extinction. Under the Federal regulations, the Hudsonian godwit, like some of its relatives, is given a close season till 1918. Such regulations are easy to enact, but are difficult of enforcement, especially in remote districts, and unless the cordial co-operation of the devotees of the shotgun can be secured, the fate of this species, and some others as well, is only too certain.

To a Woods Wren

By W. F. Leavell

Tiny bird, so wee, but friendly,
As you hop about so near,
With your plaintive notelet clear;
It is well the woods are quiet,
Else I had not known you here.
Miles from human habitation,
How so free from trepidation?
Why your pert investigation,
And for me your lack of fear?

You, of birds, if not the smallest,
Are most wonderfully frail;
But the pride that you exhale
Worthy is of something larger.
If criteria do not fail,
You're indulging in reflection:
"Smallness is itself protection;
But take note of my perfection—
It tooks years to grow this tail."

Animated, feathered atom,
As a bluffer you excel;
How you perk and strut and swell,
As you look askance, so knowing,
From the brush heap where you dwell!
Though, in truth, your look pedantic
Seems to me a joke gigantic,
And I smile at each brave antic;
Little bird, I wish you well.

—*Dumb Animals.*

Pacific Eider (*Somateria dresseri*)

Range: Breeds from southern Ungava and Newfoundland to southeastern Maine, and on southern half of Hudson Bay; winters from Newfoundland and Gulf of St. Lawrence south on Atlantic coast regularly to Massachusetts.

The American eider is the eider of northeastern North America, and differs only slightly from its European representative, the "northern eider," from which is derived much of the eiderdown of commerce. The female anticipates the needs of her ducklings for a warm and soft bed by lining the nest with down plucked from her own breast. But this downy lining is coveted by the Icelanders, who regard the summer's crop of down as a substantial addition to their annual harvest and who accordingly appropriate it. The male, equally solicitous for the welfare of the nestlings, in turn denudes his breast of its down and replaces the lining. This also is taken, after which the pair are allowed to rear their brood in peace. Needless to say, the eider is carefully protected in Iceland, and hence the crop of down is a perennial one. This duck was formerly abundant and indeed nested along the coast from Maine northward. Eiders are much less numerous than formerly within our territory, for the sufficient reason that they have been ruthlessly killed. No doubt they would soon be extinct were it not for the fact that they breed in the north far from harm. The eider is a true marine duck and well deserves the title of "sea duck" bestowed upon it by gunners. So hardy are these birds that they choose to keep to the open sea during the severest storms, and rely for their preservation on their unsurpassed powers of swimming and diving. Eiders live largely upon mussels, which they secure in fifty feet or more of water. Dependent in no wise upon man and doing him no harm, they ask only for the universal boon of life.

Ring-Necked Duck (*Marila collaris*)

Range: Breeds from southern British Columbia to northern California, and from northern Alberta and Lake Winnipeg south to North Dakota, northern Iowa, and southern Wisconsin; winters from southern British Columbia, New Mexico, northern Texas, southern Illinois, and New Jersey south to Porto Rico and Guatemala.

So much alike are the ring-neck and the lesser scaup in size, flight, and general appearance that it is only when the sportsman has bagged his bird that he can fully assure himself of its identity. Without doubt the ring-neck is much more uncommon in the Atlantic States than formerly, though Chapman states that in winter it is still abundant on the Florida fresh-water lakes. It is fairly numerous in migration in the far West in the marshes of large ponds and lakes, and still continues to breed in considerable numbers in Minnesota and North Dakota and perhaps elsewhere in our northern frontier states. I have never seen the ring-neck in large flocks, so characteristic of the scaups, and usually have observed it

either in small companies consisting exclusively of its own species, or associated in large flocks of other species, and such, I believe, has been the experience of most other observers. The ring-neck has no fondness for salt water, but is pre-eminently a fresh-water species. Like other members of the genus it is an excellent diver, and where wild celery is to be had, gets its share of the coveted grass. In point of excellence for the table it may be ranked with the two scaups, but does not equal the redhead or canvas-back.

Great Scaup Duck (*Marila marila*)

Range: Breeds from Aleutian Islands, northwestern Alaska, Great Slave Lake, and central Keewatin south to southern British Columbia and northern North Dakota; winters from Maine to Florida and the Bahamas, and from Aleutian Islands, Nevada, Colorado, and Lake Ontario south to southern California, southern New Mexico and southern Texas.

Both on the east and west coast the scaup duck is emphatically a bay or estuary species and prefers salt or brackish water. Formerly it frequented such localities in flocks of thousands, often associated with the lesser scaup from which it is not readily distinguishable at a distance. Notwithstanding the fact that both scaups breed chiefly in the far North, their numbers have been greatly depleted of recent years, and the immense rafts that formerly used to gladden the heart of the sportsman are things of the past. The greater scaup used to winter in great numbers in the estuaries of the Gulf States, and in the troubled waters of Lake Borgne. In heavy gales, I have seen "rafts" of bobbing, black heads that apparently extended for miles. Even in those days (1871) the scaup had learned wisdom, and in open water it was only with great difficulty that a shot was to be obtained from skiff or sail boat. As the craft approached nearly within range the birds rose in dense masses and settled down a safe distance ahead, to repeat the performance till the patience of the sportsman was exhausted. Both scaups are expert divers, and are formidable competitors of the canvas-back and redhead in their quest for the rootstocks of wild celery. In the interior their food is much like that of other ducks, and many of the insects, snails, and other food they eat, including wild rice, are obtained without the trouble of diving.

Nesting of the Gadwall

By Gerard Alan Abbott

The Gadwall is more southerly in its breeding range than most ducks of its genus. Although they nest commonly in Alberta, Assiniboia and Manitoba, a large percentage of Gadwalls breed south of the Canadian border. Near Los Angeles, California, the Gadwell has been known to lay her eggs as early as the first of April.

Among the small lakes of North and South Dakota and Minnesota it is one of the commonest of ducks during the nesting season. Northern Wisconsin and Michigan are the summer homes of the Gadwall, but it becomes scarcer west of the Mississippi River. In the above mentioned states this duck arrives from the South in the latter part of March or in April. During the month of October it departs from its breeding grounds, gradually wending its way southward as the cold weather approaches.

The Gadwall is usually a bird of the open country, such as the prairie regions of the northwest. It nests at Shoal Lake and Lake Manitoba, Canada. About Devils Lake, North Dakota, the Gadwall commences to lay her eggs about the first of June, sometimes earlier, and fresh "sets" are not uncommon up to the first of July.

The nest is placed near water, preferably on high ground, and generally concealed by tall weeds or brush. The parent bird sometimes selects a tuft of grass or clump of rushes in an open place, which would seem to offer very little protection were it not for the dull colored female who so closely harmonizes with her surroundings that she allows herself to be almost stepped upon before leaving her eggs. One writer refers to the Gadwall as sometimes nesting in trees, but I can find no records that verify his statement. Let her leave the nest voluntarily and so deftly will she conceal her eggs by covering them with down and grass that even the trained eye of the naturalist is often baffled while searching for the hidden treasures.

The eggs average two and five-hundredths inches long by one and fifty-hundredths inches wide and range from seven to twelve in number. Their color is creamy buff, elliptical in shape and with a moderately polished surface. Gadwall's eggs have a richer, warmer hue than those of the baldpate with which they are often confused, but those of the latter are a paler buff, approaching white.

In certain localities where the Gadwall is known to breed, they show a decided preference for islands in small lakes, or a slight elevation in a bayou or lagoon. In such situations several nests of the Gadwall may be found within a radius of a few rods and frequently the baldpates take up their abodes in close proximity to their near relatives.

Among the many wet depressions, pot-holes and ponds of North Dakota, few, if any, appear complete without the characteristic muskrat houses. I have passed such places on the hottest days of June and have seen the rat house literally cov-



NEST OF THE "ADWALL DUCK."

(*Anas strepera*.)

$\frac{3}{2}$ Life size

ered with ducks, mostly drakes, and among them were a goodly number of Gadwalls, all dozing in the sunshine and expressing no fear whatever at my intrusion.

The nest and nine eggs shown in the illustration were taken on the fifteenth of June, 1900, near Graham's Island, Devils Lake, North Dakota. The eggs rested in a slight hollow in the earth, which was snugly lined with down and sheltered by the weeds and grass which covered the island upon which the nest was located.

American Merganser (*Mergus americanus*)

Range: Breeds from southern Alaska, southern Yukon, Great Slave Lake, central Keewatin, southern Ungava, and Newfoundland south to central Oregon, southern South Dakota, southern Minnesota, central Michigan, northern New York and northern New England; winters from Aleutian Islands, British Columbia, Idaho, northern Colorado, southern Wisconsin, southern Ontario, northern New England, and New Brunswick south to Lower California, northern Mexico, Texas, Louisiana, and Florida.

The narrow, serrated bill of the goosander as contrasted with the broad, smooth bills of most ducks would suggest to the merest tyro that its habits must differ widely from those of most of its kin. In fact, the goosander's bill, with its saw-like teeth, is specially adapted to seizing and holding slippery prey of various kinds including small fish which, though not its sole food, constitute the most important part of it. Water insects, frogs, and crawfish, are by no means disdained. The goosander's long, narrow body eminently fits it for swift progress under water where it spends much of its time. Cold weather and ice have no terrors for it, and the bird may winter wherever open water is assured, provided only that food is abundant. Not many goosanders remain within our territory to breed, and these retire to the mountains where they find along the foaming mountain torrents the surroundings they prefer. The merganser follows the general custom among ducks and nests on the ground, but unlike many it nests also in hollows of trees. As it does not associate in large flocks and has learned to care well for its safety, the bird is holding its own very well.

Red-Breasted Merganser (*Mergus serrator*)

Range: Breeds from Arctic coast of Alaska, northern Mackenzie, Cumberland Sound, and Greenland (lat. 73°) south to southern British Columbia, southern Alberta, southern Minnesota, central Wisconsin, northern New York, and southern Maine; winters in southern Greenland, Commander Islands, and from southern British Columbia, Utah, Colorado, southern Wisconsin, southern Ontario, and Maine south to southern Lower California, Louisiana and Florida.

The red-breasted merganser is the second of our mergansers in size, and while its habits in general correspond well with those of the larger goosander, they differ in some important respects. The red-breast, for instance, frequents salt water far more than its relative, though it, too, inhabits the interior lakes and ponds. It swims and dives with wonderful skill, and in clear, rapid mountain streams, even the swift and wary trout is not safe from its prowess. This merganser used to breed rather commonly in New England, and it still nests in the northern parts, though in diminished numbers. Apparently it never breeds in hollow trees, but conceals its nest on the ground among rocks or bushes. Like its larger relative, this duck does not "flock," and the little parties of five or eight probably represent parents and young, which from motives of attachment or safety, keep together. Eaton ascribes to this merganser a habit which would argue unusual intelligence and co-operative ability. He says, "These mergansers are often observed to hunt in company, a large flock sometimes advancing with wide, extended front, driving the fish before them and diving simultaneously, so that whichever way their prey may dart there is a serrated beak and capacious gullet ready to receive them."

Mearn's Quail (*Cyrtonyx montezumae mearnsi*.)

Range: From central Arizona and central New Mexico east to central Texas, and south to the mountains of northern Coahuila, Chihuahua, and eastern Sonora.

Mearn's quail is a Mexican species which crossed our borders long before there were political boundaries, and established itself in the low mountain ranges of our western border States, where in time it changed somewhat from the parent stock. Although I have spent considerable time in the country it inhabits, chiefly in eastern Arizona, I never found it numerous, and though I searched persistently only occasionally discovered a small covey. If I am to judge by my rather limited experience, Mearn's quail is the tamest of its kind, and well deserves the epithet of "fool quail" locally bestowed on it. So closely does the bird lie after being once started that I found it almost impossible to flush one a second time unless I marked it down to the foot. I have observed one sitting motionless on a log by the side of the trail, within riding-whip distance of a passing mule train, apparently so petrified with astonishment as to be incapable of motion.

The English Sparrow

By T. Gilbert Pearson

Many kinds of foreign birds have been introduced into the United States with the hope of having them become acclimated to their new surroundings. In many cases this action was taken by persons who doubtless were actuated by the desire to have around them certain forms of bird-life that they had been accustomed to see and enjoy about their European homes before migrating to these shores.

Linnets, Bullfinches, Skylarks, and many other birds interesting on account either of their singing, or of the striking character of their plumage, have been liberated in the United States and Canada. Game-birds, especially Hungarian Partridges, the little European Quail, and various species of Pheasants go to swell the list of foreign birds that have been brought here to mingle with our native bird-population. As a rule these imported species did not thrive in their new surroundings, and after a short time were seen no more.

The most striking exception to this rule has been the House Sparrow of Europe, which in this country has acquired the incorrect title of "English" Sparrow. The first importation of these birds appears to have been made in the year 1850, by the directors of the Brooklyn Institute. Eight pairs were that year liberated in Brooklyn, New York. In a bulletin on the English Sparrow, issued by the Department of Agriculture in 1889, a statement by the Hon. Nicholas Pike is quoted, in which he gives an account of this early attempt to naturalize English Sparrows in this country. He writes:

"It was not till 1850 that the first eight pairs were brought from England to the Brooklyn Institute, of which I was then a director. We built a large cage for them, and cared for them during the winter months. Early in the spring of 1851 they were liberated, but they did not thrive.

"In 1852 a committee of members of the Institute was chosen for the re-introduction of these birds, of which I was chairman. Over \$200 was subscribed for expenses. I went to England in 1852, on my way to the consul-generalship of Portugal. On my arrival in Liverpool I gave the order for a large lot of Sparrows and song-birds to be purchased at once. They were shipped on board the steamship 'Europa,' if I am not mistaken, in charge of an officer of the ship. Fifty Sparrows were let loose at the Narrows, according to instructions, and the rest on arrival were placed in the tower of Greenwood Cemetery chapel. They did not do well, so were removed to the house of Mr. John Hooper, one of the committee, who offered to take care of them during the winter.

"In the spring of 1853 they were all let loose in the grounds of Greenwood Cemetery, and a man hired to watch them. They did well and multiplied, and I have original notes taken from time to time of their increase and colonization over our great country."

This appears to have been only the first of many importations that followed.

For example, Colonel William Rhoades, of Quebec, Canada, introduced Sparrows at Portland, Maine, in 1854. Other men brought some to Peace Dale, Rhode Island, in 1858. In 1860 twelve birds were liberated in Madison Square, New York City; and four years later they were introduced into Central Park. In 1866 200 were set free in Union Park, New York City. Forty pairs were brought to New Haven, Connecticut, in 1867. Twenty Sparrows were turned loose in Boston Common in 1868. In 1869 the City Government of Philadelphia bought over one thousand Sparrows. In the same year twenty pairs were brought to Cleveland, Ohio, and sixty-six pairs were taken from New York to Cincinnati. Shortly after this they were introduced in San Francisco.

It will be seen, therefore, from the above records, which are not at all complete, that the present population of English Sparrows did not develop in this country from a single importation, as has sometimes been stated.

Their appearance seems to have been hailed with delight by the people of the country generally, for many records tend to show that after they once became fairly well established in the East, there sprang up a regular Sparrow craze, for the birds were captured and taken to scores, if not hundreds, of places in different parts of the country.

Not only were they distributed artificially, but the birds also spread rapidly by their own initiative. Their progress was made chiefly along the highways, where the droppings of horses furnished an abundant supply of half-digested grain, and along the railroads where the grain-cars, particularly in autumn, were continually scattering food along the right-of-way.

At the present time there are comparatively few communities in the United States or in southern Canada where the English Sparrow is not well known, and probably it is the most numerous species of bird in North America. It is chiefly a bird of the cities and towns, and is usually not found in abundance in the thinly populated parts of the country. In the autumn, however, when the Sparrows are most numerous, owing to the recently reared broods, and in cities where the Sparrow population is already at its maximum, many of these birds are naturally forced out of the cities and towns in quest of food.

In no way does the English Sparrow show its fondness for living near human habitations more than in its nesting-habits. Unlike other Sparrows, it rarely, if ever, constructs its nest in woods, thickets, or fields at any considerable distance from a house. During the breeding-season the birds swarm in the towns and cities and there, in crevices about buildings, in water-spouts, or in boxes put up for the convenience of other birds, it makes its home. The hollow of trees are frequently used for this purpose. When such nesting-sites are no longer available, owing to overcrowding, they will build bulky, covered, and ill-looking nests among the branches of shade trees. The nesting material used consists of straw, grass, twigs, rags, fragments of paper, or feathers; in fact, almost any substance that may easily be carried seems to be regarded by these birds as suitable material for nest-making.

The eggs are spotted, and usually range in number from four to six. Two or

more broods are often reared in a season. The Sparrow is extremely prolific, and one evidence of its wonderful ability to avoid dangers and thrive is shown in the fact that in large cities, where destructive natural enemies are reduced to a minimum, albinism has become more and more noticeable. I have observed here in New York City in recent years that the number of Sparrows showing white feathers in the wings or on the body has apparently increased. If these unusually marked birds lived in the country they would, of course, be shining marks for predatory enemies.

While primarily a seed-eater by nature, the English Sparrow is nevertheless quite omnivorous in its food-habits, and it annually destroys many insects. I recall some years ago talking with two farmers in Onslow County, North Carolina, who were lamenting the fact that the law did not protect the English Sparrow, for they stated that these birds were among the most valuable species on their farms because of their great fondness for the caterpillars that infested their tobacco plants.

An observer in the United States Department of Agriculture recently found that in Utah these Sparrows were feeding their young largely on the cut-worms and other insects that were then a scourge of the alfalfa fields of northern Utah. Other observers in various parts of the country have pointed to instances where the English Sparrow was of decided economic value. These cases, however, appear to be comparatively isolated ones, and are regarded by our agricultural experts in Washington as being greatly overbalanced by the injury these birds do to the general interests of mankind.

Most persons who have tried to cultivate gardens or small fruits in the neighborhood of towns or cities are ready to testify to the annoyance they have experienced by English Sparrows eating tender plants, such as new peas and young lettuce, as well as by the destruction of such fruits as cherries, pears, grapes, and peaches. They also frequently destroy buds and flowers.

The United States Department of Agriculture scientifically investigated the contents of the stomachs of a large number of English Sparrows, and reported that aside from the destruction of weed-seeds, very little is to be said in the English Sparrow's favor. In reference to the insects destroyed this statement is made: "Out of five hundred and fifty-two stomachs inspected by the Biological Survey, forty-seven contained noxious insects, fifty held beneficial insects, and thirty-one contained insects of little or no importance."

There is a widespread feeling that the country would be better off if the English Sparrow had never been brought here. This sentiment against this bird, whether justified or not, has arisen because of the annoyance it gives to gardeners and fruit-growers; its tendency to destroy the nests of small native birds and thus drive them out of our towns; the loss caused by fires due to the nests placed about buildings catching sparks; its uncleanly habits spoiling sculptures on the façades of buildings; its noisy chatter about the house and yard where once the songs of other birds were heard, to say nothing of the pelulant calling

and fighting in the early morning heard about the bedroom windows where late risers are taking their "beauty sleeps."

Resentment against the bird is reflected in the laws of our country, for in no state in the Union is the English Sparrow protected by statute. Every little while there are discussions in the public press about starting "Sparrow-wars" with a view to exterminating these birds. Now and then we hear of some community's efforts looking to this end. Such attempts, however, have virtually been futile, as the English Sparrow can take care of itself so successfully that only by continuous warfare against them, year after year, can their numbers be kept down in any particular community.

Sometimes the experiment is made of offering a bounty on the heads of Sparrows. One objection to this procedure is that inexperienced persons, who are not able to distinguish between the English Sparrow and one or another of our native Sparrows, immediately become active in such a campaign, and our native birds suffer as a result. Within the past month an agent of this Association visited a western town where a bounty was being paid on dead English Sparrows. This agent examined the dead birds brought in during three days, and found that only one out of every eleven birds brought in, on all of which the bounty appears to have been paid, were English Sparrows; the others were all useful native birds.

"What shall we do with the English Sparrow?" is a question which this Association is probably asked once a day on an average throughout the year. I confess my inability to answer this question. The Department of Agriculture at Washington has attempted to answer it by issuing bulletins advising people to poison and trap the birds. Whether this course is wise, it may at least be said that all such attempts in a public way instantly produce strong opposition by many hundreds of men and women who, perhaps in lieu of more interesting bird-neighbors, regard with pleasure the presence of the English Sparrows, and often feed them upon their window-sills, or provide boxes for their accommodation.

The Black-Billed Cuckoo

By Melicent Eno Humason

This afternoon I was leisurely lying on the couch in my den, listening to the gentle purr of a cooling shower, when I heard a guttural voice outside my window, and hastily arising, I perceived in the apple boughs, scarcely three feet below me, the long, graceful swaying tail of a bird, which seemed to hang on hinges from the leafy bough.

As my eyes steadily followed the line of his tail, and I conjectured where the head might be, my gaze lighted upon a nest of tent-caterpillars, and the slight wriggling of a grub betrayed the location of a brown head, and a curved black bill. Need I say that the bill was intensely busy?

A sudden twist, and the black-billed cuckoo was entirely exposed—his beautiful sleep shoulders; his rounded wings; his soft and pale-toned breast.

He finished his meal with much smacking of bill, then glided silently to an open place in a dying apple tree near by, where he could dry his feathers in the sunlight—for the little shower had stolen away as swiftly as it came.

To procure a better view of the bird, I entered an upper south balcony, where, selecting a front seat, I watched his performance, by the aid of my opera glasses, with profound enjoyment.

He was perfectly silhouetted against the pale blue sky—his black bill sharp and severe; the red line around his eye glistening with bloody fire; his pearly breast fluffy and full as though he balanced a cotton bale under his chin; his coat velvety and serene.

Once he wrapped his two curved wings about his breast as an old lady draws her shawl around her, and shivers a bit, murmuring to herself: “ ‘Tis cold, ‘tis cold”; and once again he unfolded those exquisite wings of his as a young girl lifts her gown and curtseys low.

He preened himself, and shook himself, and intermittently sat quiet as a marble dove in an old cemetery, and then, when he was quite dry and smooth again, he stealthily stole to the next apple tree, where he alighted upon a bough, but his siesta was brief, for lo! he was near a robin’s nest, and the father-bird who was guarding on a neighboring fence, furiously flew to attack him, with loud and shrieking cries.

But the cuckoo flitted away like a ghost, and when the robin ceased his angry chatter, all was silent, and the curtain dropped upon one scene, and I wondered what the next would be.

The Varied Thrush (*Ixoreus naevius*)

By Lynds Jones

The Varied Thrush is one of the most beautiful members of the family of thrushes. Its range is somewhat limited as it frequents only the coastal regions of the northwestern part of North America. In winter, however, it may be found in California and is occasionally seen as far south as Lower California. As a straggler, it is sometimes noticed in the New England states.

Mr. Mitchell says that the Varied Thrush reached the Columbia river in its southward flight some time in October. He also states that "at this time they flit through the forests in small flocks, usually frequenting the low trees, on which they perch in perfect silence and are at times very timorous and difficult to approach, having all the sly sagacity of the robin." In fact this bird, which is often called the Western Robin, is not only much more shy and retiring than our well known eastern friend, but their song is also very different, "consisting only of five or six notes in a minor key and a scale regularly descending." Mr. Townsend speaks of the song as being louder, sharper and quicker than that of the robin and adds that its song just before its northward flight, in the spring, is pleasant. Its song is seldom heard except from the tree tops, and in summer, as a rule, only from the deeper forests.

Dr. Suckley describes the Varied Thrush as he studied it in Oregon and Washington. He says: "In winter it is a shy bird, not generally becoming noticeable in the open districts until after a fall of snow, when many individuals may be seen along the sand beaches near salt water. They are at such times tame and abundant. I suppose that they are driven out of the woods during the heavy snows by hunger. It may then frequently be found in company with the robin, with which it has many similar habits. At this time of the year it is a very silent bird, quite tame and will allow near approach. It appears to be fond of flying by short stages in a desultory manner, sometimes alighting on the ground, at other times on fences, bushes or trees."

Mr. Cooper, speaking of the bird as he found it near San Francisco, says that they begin to appear in October, when "they are usually timid, but toward spring come more familiarly around houses and utter their shrill, low notes, which seem much more distant than the bird itself really is. If pursued they hide, and sit unmovable among the foliage."

The bird is also known by several other names, such as the Spotted, Golden, Painted or Columbia Robin or Thrush, and sometimes it is called the Thrush-like Mockingbird. A marked characteristic of the male is the black crescent on the breast.

Mr. Davie describes the nest as found by Dr. Minor in Alaska: "Its base and periphery are composed of an elaborate basket-work of slender twigs. Within these is an inner nest consisting of an interweaving of fine dry grasses and long gray lichen." The eggs are said to be a light greenish-blue, slightly sprinkled with spots of a dark umber-brown.



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VARIED THRUSH
(*Hesperocichla naevia*)
About $\frac{1}{6}$ Life-size

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The White-Breasted Nuthatch

By Harry Edward Miller

Call and note like some one laughing;
Like some jester with his chaffing
Echoes with court jester's style
From orchard tree or woodland aisle;
Or with hilarious vein doth greet
The stroller through the village street,
To bring again as bring they must
The court jester whose bones are dust;
The castle and all the castle throng
That to the clouded past belong.
The door is opened and lifted the latch
By this old jester, the gray nuthatch,
Who does on tree-trunk bob and tilt,
Asking the dreamer if he wilt
To walk through Fancy's guarded door
To those lost ages gone before;
To live again in stout castle keep
With people who long ago went to sleep;
To hear again in the master's court
The song of jester and his quick retort;
The jester whose sole place on earth
Was to drive out old care with mirth:

So once his mirthful journey ran—
Now there be none of his old clan
Of merrymakers in thick wood or grove,
Nor in the field where we may rove;
Lest some such spirit did incarnate,
To make the nuthatch laughter's mate.

Our Wood Pewee

By Edward B. Clark

It is better to hear the wood pewee than to see him, unless you be a student of character and can look beneath the ugliness of externals to find the internal charm.

Ill-shaped and with neither beauty of dress nor grace of manner to commend him to the eye, the wood pewee goes apart as if feeling that his appearance is an offense. He does not, however, resent human intrusion into his solitudes. His manner plainly is: "I took myself out of your paths, but if you come to me the pain of my presence be yours."

And there in the leafy hermitage the pewee, after one sidelong glance and a moment's pause in his work, will again take up his trade, which is that of a snapper-up of unconsidered insect trifles. The boundaries of his hunting grounds are not ten yards removed from the nest where broods his mate. His hunting methods are those of the deerslayer who watches at a runway until the game is passing and then strikes it down.

It is a luckless winged insect that makes thoroughfare near the perch of the wood pewee. The bird's eye detects the tiniest of the quarry and he launches out from the limb, and snap! the thing is over and an unfortunate is done for.

Probably not even the close friend of this solitary bird would claim for him the gift of song. The wood pewee has only two notes, and they give him his name, for he syllables "pe-wee" all the day long and at times when his shadowed home has fallen under the deeper shadow of night.

In truth, the bird has no song, but no songster of the whole feathered range can put into so small a compass a sweeter utterance. True enough, it is melancholy, but it is in close keeping with the dim surroundings and with the subdued sound of the wind in the forest. The wood pewee is known to many persons as a voice rather than as a bird. They have heard the plaintive call time after time, but have never traced the sound to its source. No question oftener is put to the student of birds than that which asks the identity of the owner of the voice which almost invariably is described as possessing above all other qualities those of sweetness and melancholy.

As another compensation for denying anything of grace of form or manner to the bird, nature taught him to build a nest that has no rival for beauty and delicacy save the house of the ruby-throated humming-bird.

The wood pewee's domicile is built of lichens woven into a fabric with fine craft. In shape and size it is a small teacup, cut off midway of its height. The nest rests upon the upper side of a horizontal limb, and a keen eye is needed to detect it so closely does it resemble the lichen-covered base of a severed branch. The method of its building the wood pewee holds as a secret that is beyond the cunning of man to discover.

The Maryland Yellow-Throat

To Margey Christine Ermine

Airy, cheery, little fay!
He goes warbling all the day—
 “Margey, Margey, Margey!”
Thank you for that mellow note,
Happy-hearted Yellow-throat;
My heart sings the same sweet song,
O'er and o'er, the whole day long—
 “Margey, Margey, Margey!”

In the dawn, by babbling rill,
There I hear him gayly trill—
 “Margey, Margey, Margey!”
When the sunset's purple cloud
Folds the rose in dewy shroud,
Still I hear him piping low,
In the twilight's tender glow—
 “Margey, Margey, Margey!”

Then, in sleep, I hear him call,
By some Dreamland and waterfall,
 “Margey, Margey, Margey!”
Sweetest word was ever sung
By mortal or immortal tongue;
Sweet as Love's first sacrifice;
Sweet as love in Paradise—
 “Margey, Margey, Margey!”

RAY RON.

The Worm-Eating Warbler (*Helmitheros vermivorus*)

{ By W. Leon Dawson

Description.—*Adults*: Head striped above; a narrow black stripe from either nostril, broadening behind; and a stripe of the same color through either eye; alternating stripes, and sides of head dingy buff; remaining upper parts dull olive; below dingy buffy, brighter on breast; bill dusky above, pale below; feet pale. Length 5.50 (139.7); wing 2.86 (72.6); tail 1.91 (48.5); bill .58 (14.7).

Recognition Marks.—Medium warbler size; black and buff stripes on head; dingy coloration.

Nest, on the ground, often sheltered by bush clumps, roots, projecting stones and the like; of leaves, bark, and trash, lined with grass, moss, or hair. Eggs, 4-6, of variable shape, white, lightly or heavily spotted and blotched with lavender and chestnut. Av. size, .68 x .54 (17.3 x 13.7).

General Range.—Eastern United States, north to southern New York, and southern New England, west to eastern Kansas and Texas; south in winter to Cuba and northern South America. Breeds throughout its United States range.

DAMP woods, shady hillsides, and heavy undergrowth are required to attract this modest Warbler even in the southern part of our state, where alone it is common. Here the bird glides about over fallen logs, scuttles under brush-heaps or projecting stones, scratches vigorously among the fallen leaves, or clammers about the bushes, pursuing always a relentless search for the spiders, grubs, and worms, which form its almost exclusive diet. It is mainly a silent bird, and apart from nesting considerations regards your intrusion into its dusky haunts with little concern. Given, however, a sitting mate, or babies in the vicinity, and the bird's expostulations are most emphatic. *Chip—chip—chip*, it says with an energy which shakes the little frame; and presently every bird on the hillside joins in berating you.

There is little danger, however, for the bird. The nest is lodged somewhere upon the hillside, half buried by festoons of running vines and mosses, or else tucked away under the shadow of a log amidst a riot of dead leaves. Mere search is useless. The bird will guide you to her nest—perhaps. If not, why try again next year.

If caught upon the nest the bird sits close and braves the threatening hand, or else flutters out and tumbles down the hill with every symptom of acute and most inviting distress. Of course the distress is only mental, and the invitation is withdrawn in the nick of time.

The nest consists of a copious swathing of bark-strips and dead leaves, open at the top or side, according to the nature of the ground, and carefully lined with fine grass, hair, or moss.

Upon one occasion only does the Worm-eating Warbler avail himself freely of the more elevated perches which his forest home affords. In singing the bird mounts a limb twenty or thirty feet high and pours forth a torrent of notes not



WORM-EATING WARBLER.
Helmitherus vermivorus.
About Life-size.

unlike those of the Chipping Sparrow. So close is the resemblance that one is almost sure to be deceived by them the first time; but closer attention discloses their more rapid utterance and somewhat finer quality. One individual heard near Sugar Grove wound up his trill with an odd musical quirk quite out of character, and which he had borrowed, I fancy, from a Hooded Warbler nesting near.

Communion

By Melicent Eno Humason

One afternoon, as I was returning through a meadow, after tramping in the mountains, I spied, sitting on the barbed wire fence directly before me, five baby barn swallows.

Why must we insist upon calling these beautiful creatures of salmon and blue, such a raw, uncouth appellation?

They were all looking straight at me, but did not attempt to fly, though surely old enough.

I was reflecting upon their hesitancy, when, through the mellow glow of an hour before twilight, I beheld the mother dart down from the sky with food for her babies.

She swooped to the first and fed him; then to the second and fed him; then to the third, but just here she noticed me, and with anxious little cries and excited whistles of warning, she scurried those youngsters from the fence, to the nursery of the sky as fast as they could plane the air.

I have always wondered if the other three babies were fed as much as the rest that day, or if they were all mixed up, in the eyes of the mother, as soon as they felt the fence.

A simple little incident, this, but it left a strange impression upon me.

In that beautiful, late afternoon glow, much like the reflection cast from stained glass windows in a cathedral—though, somehow, I prefer to vision the interior of a little Episcopal chapel—the parent swallow appeared to me like a rector in vesture of the sacred blue; the little swallows represented his flock; while the hour of feeding merged into the holy hour of communion.

I think I, too, would have knelt before that beautiful creature, if she had not swept away, with her brood, to the sky.

The Veery

By T. Gilbert Pearson

The Thrushes are rated very high as song-birds, and each has a song so distinct in itself that, once perfectly heard, it need never be forgotten nor confused with the song of any other. One of America's most popular members of this family is the Tawny or Wilson's Thrush, usually known as the Veery. It was called Wilson's Thrush by Prince Lucien Bonaparte, who was a great admirer of Alexander Wilson, and the editor of his "Ornithology." The name "Veery" is an imitation of its ringing call. To the novice in bird-study the various small Thrushes are somewhat confusing. The Veery has often been mistaken for the Wood Thrush, despite the difference that the latter has distinct rounded black spots on its breast, and the Veery has small and somewhat indistinct arrow-shaped spots on its breast and sides.

There is no mistaking the Veery's song, however. It is one of the most melodious notes of the northern woodlands, and during the spring migration is frequently heard on still days in the forests and groves of the South. It begins singing shortly after its arrival in May and usually stops early in July. There have been many attempts to describe the Veery's song, and numerous writers have tried to spell it out in words. To my mind all such attempts are woefully inadequate. Perhaps the best description of its song is that given by Ridgway, who refers to it as "an inexpressible, delicate, metallic utterance of the syllables *ta-weel-ah, twil-ah, twil-ah*, accompanied by a fine trill." The first part of the song is louder than the ending—in fact the song seems to start off with a burst of energy which diminishes before the end of the performance. To me the song has always suggested a sort of ethereal trill, as if the notes came through a spiral, silvery pipe, and there is something suggesting infinite space and vast distance in their exquisite quality. Although the song carries well, it frequently happens that when one is near the performer, but does not see it, one may think the bird a considerable distance away.

The Olive-backed Thrush has a song which may be described as a poor imitation of that of the Veery, but once listen to a Veery on a long summer evening and you will never afterward mistake the Olive-backed Thrush for the Veery.

This bird knows well how to hide her nest and unless, perchance, you should see her carrying building-materials, or should discover one of the parents taking food to the young, you are not likely to learn her secret. Probably the majority of nests that are seen are found by flushing the bird from her eggs as the observer makes his way through the woodland.

On June 18, 1914, I found myself in a good Veery country along the western shore of Lake Champlain. The constant singing of these Thrushes, especially in the early morning and late afternoon and evening, awakened a strong desire to learn more of the private life of these particular birds. Just as you always feel that you know a man better after having seen his home, so do you feel on much

more intimate terms with a wild bird after having looked upon the cradle it has built for its young. We were in the midst of the woods and Veeries sang on every side. So I started gaily forth to hunt a nest, but the day ended in failure, as also did the next and the next. In desperation I wrote to a very wise gentleman of my acquaintance and asked him how in the world I was to find a Veery's nest.

"It is a simple matter," he wrote, "if you will keep your eyes open. The nest is always on the ground or very near it. Look at the foot of trees or stumps, especially in growths of young sprouts, on logs or stumps, in thick places, or among plants on a steep hillside. Search only in the woods and especially where it is damp."

I read this and found I knew just exactly as much as I did before, for I had seen all this in bird-books over and over again. So I thanked him for his kindness and went out into the woods once more. For two or three hours every day for two weeks the search went on, and not the slightest sign of a nest could I find. Yet the Veeries had nests, or had had nests, for during this time I came upon no less than fourteen young, as yet scarcely able to fly. All were perched in the bushes a few feet from the ground, and usually one or both of the parents at once discovered me.

This recalled Miss Florence Merriam's saying in her "Birds of Village and Field," that the Veery is a peculiarly companionable bird to those who live near its haunts. "It will become so tame," she tells us, "as to nest close to a house if not disturbed, and when sought in its natural woodland home will meet your friendly advances with confidence, answering your whistle with its own sweet wavering *whee-u*, till you feel that the woods hold gentle friends to whom you will gladly return."

The next summer found me again in these woods, prying into every thicket and clump of sprouts where a Veery might hide, and then at eight o'clock on the morning of June 19 I came upon a bird sitting on her nest. With the greatest caution I withdrew, only to go again the next day, and the day following, hoping to find her away. On the fourth trip, when I peeped into the hiding-place, I found her gone. Drawing the bushes aside, I advanced and looked into the nest. It was empty. On the ground I found three eggs. They were deep blue, unspotted, and resembled the eggs of a Catbird, but were smaller. Every one had a large section of the shell cut away and there was no sign of its contents. Surely the red squirrel I had frequently seen near by had wrought this mischief—at least, in my disappointment, I laid the blame at his door.

The Roseate Spoonbill (*Ajaja ajaja*)

By F. M. Woodruff

Length: 32 inches.

In the words of Audubon, "the Roseate Spoonbill is to be met with, for the most part, along the marshy or muddy borders of estuaries, the mouths of rivers, on sea islands, or keys partially overgrown with bushes, and still more abundantly along the shores of the salt-water bayous so common within a mile or two of the shore. There it can reside and breed, with almost complete security, in the midst of an abundance of food." I find that these words, quoted from the "Water Birds of North America," very truthfully describe the home of this bird. Its range extends from the southern Atlantic and Gulf States southward to the Falkland Islands and Patagonia. Its range at one time, many years ago, extended northward in the Mississippi Valley to southern Illinois.

When I first saw these Spoonbills it almost seemed as if Nature had made some mistake in the creation of this grotesque combination of an almost repulsive looking head and the exquisite shading of crimson and pink of the plumage on its graceful body. In studying the Spoonbill in life, as it wades in the shallow pools in the bayous and salt marshes, one is surprised at the wonderful dexterity with which it uses its light spoon-shaped bill. It is a persistent and rapid worker, moving its bill from side to side on the surface of the muddy bottom for small mollusks and sea weeds. It is amusing to see the Spoonbills at times walking one behind the other, and often the one in front is pushed ahead causing it to go through sundry antics, and occasionally the maneuvers end in a fight. The antics of these thirds are so interesting that I am afraid that my engagement in watching them has often caused me to neglect work in other lines of nature study.

The lonely bayous between Brazos, Texas, and Matagorda Bay are excellent places to observe the habits of this and many other species of birds. If one is so fortunate as to find a locality where the birds have not been molested, a light blind may be erected within a few feet of the water's edge and all of the waders may be decoyed to close range. The numerous bayous along the Gulf coast widen out inland forming large lakes which are left bare, or nearly so, by the outgoing tide. One of the most beautiful sights I ever witnessed, while in my blind, was a time when I had a large flock of white-faced glossy ibises, wood ibises, snowy herons and Roseate Spoonbills all within fifty yards from me. The combination was dazzling. The Spoonbills and the glossy ibises would sail in and away at an easy angle, while the wood ibises would circle and sail until almost out of sight.

The Spoonbills are always gregarious at all seasons in coveys of a half dozen or more. "At the approach of the breeding season these small flocks collect together, forming immense collections, after the manner of the ibis, and resort to their former breeding-places, to which they almost invariably return. In flight the Spoonbills resemble the herons with easy flappings of the wings. Their necks are thrown forward to their full length and their legs are stretched out behind.



ROSEATE SPOONBILL.

1 Life-size.

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They seem to depend on the herons, with which they associate, for warning of any approaching danger, for the herons are very vigilant and watchful.

The three to five white eggs which are spotted with shades of olive-brown are laid in a nest which is a mere platform of sticks built in bushes, chiefly the man-grove, or in small trees.

Band-Tailed Pigeon (*Columba fasciata fasciata*)

Range: Breeds from southwestern British Columbia, western Washington, western Oregon, northern Utah, and north-central Colorado south through southwestern United States and Mexico to Nicaragua, and east to western Texas; winters from southwestern United States southward.

Though bearing no very close resemblance to the passenger pigeon, the band-tail may be said to represent that bird on the Pacific coast. Like the pigeons generally, the band-tails are sociable, and flocks of hundreds used to be common in the oak groves of southern California.

They are extremely fond of acorns, and although of late years persecution has made them wary they will risk much to obtain their favorite food. When they find a well-laden oak tree they will swallow acorns till they are full to the very bill. As their soft bills are totally inadequate to hull the acorn, they swallow shells and all, and such are their powers of digestion that they can dispose of at least two full meals every day. They are said to breed in Arizona nearly every month of the year, and Vernon Bailey found them nesting in the Guadalupe Mountains, Texas, as late as August. Their note in the breeding season is a hoot singularly like an owl's, but most of the year they are silent. On the west coast for years they have been persistently hunted, and as they breed in the mountains, which are much resorted to by summer campers, the limits of the close season are by no means always observed. It is high time to take active measures for the preservation of the band-tail; otherwise it will soon meet the same fate as the passenger pigeon.

The Olive-Sided Flycatcher (*Nuttallornis borealis*)

Description.—*Adult*: Upper parts brownish slate with a just perceptible tinge of olivaceous on back; top of head a deeper shade, and without olivaceous; wings and tail dusky-blackish, the former with some brownish gray edging only on tertials; flank-tufts of fluffy, yellowish or white feathers, sometimes spreading across rump and in marked contrast to it, but usually concealed by wings; throat, belly and crissum, and sometimes middle line of breast, white or yellowish white; heavily shaded on sides and sometimes across breast with brownish gray or olive-brown,—the feathers with darker shafts-streaks; bill black above, pale yellow below; feet black. *Immature*: Similar to adult, but coloration a little brighter; wing-coverts fulvous or buffy. Length 7.00-8.00 (177.8-203.2); wing 4.16 (105.7); tail 2.64 (67.1); bill from nostril .53 (13.5).

Recognition Marks.—Sparrow to Chewink size; heavy shaded sides; bill yellow below; *tew-tew* note; keeps high in trees during migrations.

Nesting.—Not known to breed in Ohio. *Nest*, a shallow cup of twigs, bark-strips, etc., lined with grass and moss; saddled upon horizontal limb of coniferous trees, often at great heights. *Eggs*, 3-5, creamy-white or pale buff, spotted distinctly with chestnut and rufous, and obscurely with purplish and lavender, chiefly in ring about larger end. Average size, .85 x .63 (21.6 x 16.).

General Range.—North America, breeding from the northern and the higher mountainous parts of the United States northward to British Columbia, and the Saskatchewan River. Accidental on the Lower Yukon and in Greenland. In winter south to Central America, Columbia and northern Peru.

A familiar resident in the mountains of the west and not uncommon in New England, this large Flycatcher is known to us only as a rare migrant passing to and from its home in the Laurentian highlands. It is not a sociable bird, but migrates in solitary fashion, and roosts high in some scantily clad or dead tree, wherever night may chance to overtake it. At such times it expresses its distrust of the bird-man, craning his neck from below, by occasional alarm notes of singular resonance and penetrating quality, *tew-tew, tew-tew, tew, tew, tew*. Besides this he has a loud call, *swee-chew*, which is one of the characteristic notes of the dense evergreen forests in which the bird spends its summer. “*Three Cheers*,” he seems to say—as a gold-miner in the Cascade Mountains of Washington once put it. And, truly, for one who has been delving all day in the bowels of the silent earth, the greeting which this bird shouts down from the topmost twig of some giant fir is most welcome and enspiriting.



OLIVE-SIDED FLYCATCHER.
About Life-size.

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Barrow's Golden-Eye (*Clangula islandica*)

Range: Breeds from south central Alaska and northwestern Mackenzie to southern Oregon and southern Colorado, and from northern Ungava to central Quebec; winters from southeastern Alaska, central Montana, the Great Lakes, and Gulf of St. Lawrence south to central California, southern Colorado, Nebraska, and New England.

The resemblance which Barrow's golden-eye bears to the common whistler is extraordinarily close. The males, as a glance at the illustration will show, are easily enough distinguished when close by, but to tell the females and young apart with absolute certainty is impossible. It comes to us as a migrant in the late fall and sojourns along our northern borders, where it is often shot and sent to market with the more numerous common whistler.

Snow Goose (*Chen hyperboreus hyperboreus*)

Range: Breeds from the mouth of the Mackenzie east probably to Coronation Gulf and Melville Island; winters from southern British Columbia, southern Colorado, and southern Illinois south to northern Lower California, central Mexico, Texas and Louisiana.

For all practical purposes, the snow goose or white brant may be considered a western bird. It is, however, so much like the greater snow goose, except in size, that the eastern records of the two species are much confused, and it is difficult to determine to which bird any particular account applies. No doubt varying numbers of the lesser snow goose used to visit the eastern states where, however, the larger goose was and is more numerous. The smaller snow goose breeds in northern latitudes, and in fall migrates in great numbers to our southwestern states. In the early days of California it was no uncommon sight in winter to see stubble fields and pastures so covered with white brant as to seem like great snow-fields. And very beautiful these snowy tracts appeared under the bright mid-winter sun of California. The ranchmen, however, looked with no friendly eyes on these multitudes of geese, since the tender leaves of wheat are greatly relished by them. When they nip off the blades of the growing grain, little damage is done, and many claim, indeed, that the crop stools the better for it. No doubt, however, great damage sometimes resulted from too frequent cropping, and it was no uncommon practice to hire men to ride from grain field to grain field and keep up a constant fusillade to kill or scare away the geese. Though the multitudes of earlier days no longer visit California, the bird is still numerous there.

The California Thrasher (*Toxostoma Rediviva*)

By F. E. L. Beal

Thrashers are eminently birds of the underbrush. While they occasionally alight on trees at some height from the ground, they are more frequently seen under bushes or skulking out of sight in some almost impenetrable thicket of briars. When, however, the thrasher wakes in the morning and feels his soul overflowing with song, he perches on the topmost twig of a tree and lets the world know that he is there and believes that life is worth living.

The food of the thrasher is obtained on or near the ground. The long curved bill of the California species is probably used much as many birds use their claws to dig among dead leaves and other rubbish for insects. The bird is not fastidious in its diet, and examination of the stomachs reveals a good many bits of dead leaves, rotten wood, plant stems, which are carelessly taken along with more nutritious morsels.

An examination of 82 stomachs of this species shows that vegetable food exceeds the animal in the proportion of 59 to 41. In the eastern species (*T. rufum*) the ratio is 36 to 64. This result is rather surprising, for, as a general rule, California birds eat a larger proportion of animal food than do the most nearly related eastern species.

Animal food.—As the thrasher is eminently a ground forager it would naturally be expected to find and eat many ground-living beetles. Of these the Carabidae are the most important, owing to their predaceous habits; so a separate account of this family was kept. The result shows that they enter the food of the thrasher to the extent only of 3.8 per cent, while all other beetles amount to nearly 6 per cent. Of these, the darkling beetles (Tenebrionidae) are the most numerous, and the May beetle (Scarabaeidae) next. But very few weevils or other species that live on trees or foliage were found. Of all the insects, Hymenoptera are the most abundant, as they are also the most constant element of the thrasher's food. About half of these are ants, the rest wasps and bees. Ants naturally are the insects most often found by this bird, as many species live on the ground and among rubbish and rotten wood. The occurrence in the food of wasps and bees, on the contrary, is somewhat of a surprise, as they are mostly sun-loving insects more often found on flowers or the leaves of trees than under bushes or thickets where the thrasher delights to forage. Together they make up something more than 12 per cent of the food of the year. Two specimens of worker honey-bees (*Apis mellifera*) were found in one stomach. None of the other Hymenoptera was of specially useful species.

Caterpillars, cocoons, and moths amount to a little more than 8 per cent of the food, and the greater number were eaten during the winter months. It is probable that they were hibernating and were raked out from under dead leaves or other rubbish. A few bugs, flies, grasshoppers, and spiders make up the rest of the animal food—about 6 per cent. Spiders and myriapods amount to a little more than 6 per cent.

CALIFORNIAN THRASHER.
(*Hartporrhynchus redivivus*)
♂ Life-size.



Vegetable food.—The vegetable food may be divided into three parts: Fruit, poison-oak seeds, and miscellaneous vegetable matter. Fruit represents nearly 18 per cent, but it probably is not of much value. Several stomachs contained pulp that could not be identified with certainty, and might have been that of some cultivated variety. Seeds of Rubus fruits (blackberries or raspberries) were found in 12 stomachs out of the 82. These, however, are as likely to have been wild as cultivated. Elderberry seeds were discovered in 10 stomachs, Cascara, or coffee berries (*Rhamnus californicus*), in 5, and manzanita berries in 1. The seed of poison oak and a few of the nonpoisonous species of *Rhus* were eaten to the extent of 14 per cent of the food. They were not found in many stomachs, but appear to be eaten in considerable quantities when eaten at all. The thrasher must be added to the list of birds that assist in the dissemination of the seeds of this noxious plant.

The miscellaneous part of the vegetable food amounts to over 26 per cent, and is made up of mast, weed seed, galls, and rubbish. The mast was not further identifiable. Most of the seeds were so broken and ground up that only a few species were identified. Two stomachs contained remains of grain—wheat in one and corn in the other. Leaf galls were found in several stomachs, and rubbish in quite a number, though here again it is difficult to draw the line between food proper and stuff that is accidentally picked up with it.

The song of the western thrasher is exquisitely sweet, and by some it is considered far superior to that of any of the numerous songsters that frequent the woods and brush of the Pacific Coast.

Because of its short wings, the movements of this thrasher are rather heavy. Its flights are short, and usually from bush to bush, while constantly opening and shutting its tail. Its favorite haunts seem to be the regions of scrubby oak and greasewood brush of the deep mountain gorges. Here it builds its home, which "is a coarse, widely constructed platform of sticks, coarse grass, and mosses, with but a very slight depression. Occasionally, however, nests of this bird are more carefully and elaborately made. It is always well hid in the low scrub bushes."

Both the sexes assist in the care of the eggs, though the male, as befits the father of a family, usually stands guard over the nest, giving a quiet note of warning on the approach of danger.

The Broad-Winged Hawk (*Buteo platypterus*)

Synonym,—BROAD-WINGED BUZZARD.

Description.—*Adult*: Above sooty brown and fuscous, with much ill-concealed or hidden white on head, hind neck, wing-coverts, and inner margin of wings; some ochraceous margining of feathers, but less than in the two preceding species; wing-quills plain-colored externally; primaries blackening on tips, broadly white on inner webs; the three outer primaries deeply emarginate; tail black with two decided white or light gray bars, besides narrow terminal gray and basal white; cheeks finely streaked with dusky and fulvous on whitish ground; throat white narrowly streaked with blackish; remaining under parts whitish or pale fulvous, heavily and widely barred and streaked with yellowish brown or dusky ochraceous; sometimes nearly solid colored on breast; lower belly and crissum nearly immaculate; shanks sparingly fine-barred; axillars barred, but under surface of wing nearly white, black-tipped; bill dark, or yellow-spotted below; feet yellow; claws black. *Immature*: Like adult, but tail grayish brown crossed by five or seven narrow dusky bands; under parts white or buffy, streaked and spotted with dusky; longitudinal pattern more distinct than in adult. Adult male length about 14.00-16.00 (355.6-406.4); wings about 10.50 (266.7); tail about 6.75 (171.5); culmen from cere .75 (19.1); tarsus 2.50 (62.5). Female from two to three inches longer and proportioned accordingly.

Recognition Marks.—Typical Crow size; the white under surface of wing, with black primary tips, affords quickest field recognition mark; wings rounded; bird shorter and more compact in build than *Accipiter cooperii*, with which it is most likely to be confused.

Nest, of sticks, in trees; often a deserted Crow's nest. Eggs, 2-4, buffy white, spotted and blotched with reddish brown or ochraceous. Av. size, 2.00 x 1.58 (50.8 x 40.1).

General Range.—Eastern North America from New Brunswick and the Saskatchewan region to Texas and Mexico, and thence southward to northern South America and the West Indies. Breeds throughout its United States range.

Professor Jones is right in calling this a little-known Hawk in Ohio. Its fondness for the deeper woods, together with its small size, leaves one little opportunity to distinguish it clearly from the more abundant Cooper Hawk on the one hand or the rare Sharp-shin on the other. On only one occasion have I positively identified it in Ohio. On March 5th, 1898, a male bird with black primary-tips contrasting sharply with the white of the remaining under-wing surface, flew low overhead as I stood in the street in Oberlin. The bird held a straight course north, and moved with the alternating flap and sail so characteristic of the Buteos.

According to Dr. William L. Ralph, who has studied the species closely in northern New Work: "When one is driven from its nest it at once utters a shrill call which soon brings its mate to the spot, and together they will keep up their



BROAD-WINGED HAWK
(*Buteo latusimus*)
1½ Life-size.

noise as long as there is anyone in the vicinity. They are very tame in this locality (Utica), and frequently when one is started from its nest it will not even leave the tree, but alight on a limb near by. They are gentle in disposition and never attempt to strike at a person, although they are very solicitous about their eggs and young. For days after they have been robbed these birds will utter their complaints when anyone approaches their homes."

"Their food consists to a great extent of small rodents, such as mice, gophers, and squirrels; shrews, small snakes, frogs, grasshoppers, beetles, larvæ of insects, and very rarely small birds. It is one of the most harmless of our Raptore and of great benefit to the farmer" (Bendire).

Knot (*Tringa canutus*)

Range: Breeds from northern Ellesmere Land south to Melville Peninsula and Iceland; also on Taimyr Peninsula, Siberia; winters south to southern Patagonia, and from the Mediterranean to South Africa, India, Australia, and New Zealand.

The knot is cosmopolitan in range and occurs on every continent and on many islands, large and small. It is strong of wing, and when migrating appears not to regard distance, for it spans the territory that separates Grinnell Land and the Straits of Magellan. It is a characteristic bird of the sea beach, and its food is obtained by following the receding waves and seizing the minute crustaceans and mollusks momentarily uncovered by the surf. Apparently, the robin snipe never was so abundant on the Pacific coast as along the Atlantic, but the species promises to last longer on the Pacific because less persecuted there. Enormous bags were formerly made on the eastern coast, more particularly during the last of May and early June. Thus the birds were pursued not only in fall but till near the opening of the nesting season, a sufficient cause of their diminution. In further explanation of the present small numbers of the knot, however, the fact counts for much that until recently there have been practically no bag limits for our shorebirds, and many gunners have shot as long as the birds and their ammunition lasted. All shorebirds that associate in large flocks are unsuspecting, as though safety lay in numbers. When the sportsman is to be reckoned with the reverse is true. Easily decoyed by wooden stools, or by the whistled imitation of their own note, or that of the black-bellied plover, a flock of robin snipe will swing in to within gunshot, and repeat the dangerous experiment two or three times, or until the flock is reduced to a few survivors.

Sage Hen (*Centrocercus urophasianus*)

Range: Sagebrush plains from middle southern British Columbia, southern Saskatchewan, and northwestern North Dakota to middle eastern California, northwestern New Mexico, and northwestern Nebraska.

To make the acquaintance of the sage hen, the largest of the grouse family in the United States, one must leave the region of forests and greenery and betake himself to the barren plains country where grows in abundance the Artemisia or sage brush. This aromatic plant furnishes the bird not only safe cover, but also food. Indeed, sage leaves constitute such a large part of the regular fare of the old birds that their flesh becomes strongly tainted, and he must be hungry indeed who relishes it. The flesh of the young, however, is excellent. Owing to its large size and its tameness it makes the easiest of marks, and unless special attention is given to its preservation the bird will before long become rare. The yellow air sacs on the neck of the male as inflated to enormous size during the mating season, and together with his curious antics no doubt suffice to render him irresistible to the female.

Blue-Fronted Jay (*Cyanocitta stelleri* and sub-species)

Length, $11\frac{3}{4}$ to 13 inches. Easily distinguished from its fellows by its high crest, brownish slaty fore-parts, dark blue wings and tail and blue or whitish streaks on forehead.

Range: Resident in western North America from southern Alaska and Montana to Mexico.

The blue-fronted jays, of which the Steller jay may be taken as the type, are common inhabitants of the piny woods of both the Rocky Mountains and the Sierra Nevada States. They are among the handsomest of the family, the beauty of their plumage, their long erectile crests, and their insistent voices compelling the attention of any who invade their retreats. Not being residents of cultivated districts, although they eat grain and small fruits, they do comparatively little damage. On the other hand, they do not do much good, for, although they are insect eaters, insects do not constitute a large part of their food, nor are the kinds they eat very important economically. Probably their most serious fault is a fondness for the eggs and young of small insectivorous birds of which they destroy many in the course of the year. They share this failing with all other members of the family, and bird lovers must deem it a pity that such bold, dashing, handsome birds as the jays should be so destructive to small but useful birds. This habit is all the more to be deplored, inasmuch as when unmolested jays readily respond to invitations to be neighborly, and willingly take up their abode near houses, where they never fail to excite admiration and interest.

Franklin's Grouse (*Canachites frankini*)

Range: Southern Alaska, central British Columbia, and west-central Alberta south to northern Oregon, central Idaho, and western Montana.

Franklin's grouse was first described by Lewis and Clarke, who saw it in Idaho while on their memorable trip to the Pacific coast. While thus known for more than a century, surprisingly little has been recorded concerning its mode of life. From the close similarity it bears to the spruce partridge of the east, it no doubt possesses very similar habits. At least it has the same confiding disposition as that bird, as is attested by the fact that its habit of standing in amazed curiosity to watch the movements of an approaching foe intent on its destruction has earned it the contemptuous epithet of "fool hen." Like our ruffed grouse, this bird is a drummer, but instead of sounding the roll from rock or log, the male drums, according to Dawson, by rapidly beating the air with his wings as he slowly sinks from some elevated station or mounts upwards to it.

Spruce Grouse (*Canachites canadensis canace*)

Range: Manitoba, southern Ontario, and New Brunswick south to northern parts of Minnesota, Wisconsin, Michigan, New York, and New England.

The history of the spruce partridge must be written mostly in the past tense, so far at least as the United States is concerned. It used to be common in Michigan, the Adirondack region of New York, and in northern New England, but in all three districts is now either rare or altogether wanting. The unsuspecting nature of this grouse and its total obliviousness to danger from human beings, or rather inhuman beings, probably had more to do with its sad end than anything else. It is said that when a flock was surprised in trees, one after another could be shot down till the last one was gone. As the grouse is practically non-migratory, its preservation depends solely on the states in which it lives, and upon them must rest the responsibility for its fate.

Black-Bellied Plover (*Squatarola squatarola*)

Range: Breeds on the Arctic coast from Point Barrow to Boothia and Melville Peninsula; also on the Arctic coast of Russia and Siberia; winters from California, Louisiana, and North Carolina to Brazil and Peru.

The "beetle-head" bears a rather close superficial resemblance to the golden plover, with which it sometimes associates, but the sportsman with quarry in hand can instantly distinguish them by a glance at the toes. If there are three toes in front and one behind, his bird is the beetle-head. The golden plover has only three toes. Like the golden plover the beetle-head breeds in Arctic lands, but unlike that bird it uses practically the same fly lines summer and fall. It inhabits both the Atlantic and Pacific coasts and also a wide strip of the interior, including the Mississippi Valley. The black-belly was formerly very abundant over most of its range, but has suffered a marked decrease in the past fifty years. It is possible that the abolition of spring shooting in a few of the Atlantic states has had an effect in retarding its decrease. It is to be hoped that this is true and that, as all shooting of this species is prohibited until 1918, the beetle-head will make substantial gains. If sportsmen and others interested can be convinced that protective measures are effective, and that under them some of our more important game birds are materially increasing, it may be possible to secure their co-operation in a really effective enforcement of protective regulations, not only in favor of the present species, but of shorebirds generally.

The House-Wren

Alexander Wilson

This well-known and familiar bird arrives in Pennsylvania about the middle of April. About the 8th or 10th of May it begins to build its nest, sometimes in the wooden cornice under the eaves or in a hollow cherry-tree, but most commonly in small boxes fixed on the top of a pole in or near the garden. It is partial to such situations because of the great numbers of caterpillars and other larvæ which may be found in the vicinity.

If all these nesting conveniences are wanting, the wren will even put up with an old hat, nailed on the weather-boards, with a small hole for entrance. If even this be denied him he will find some hole, corner or crevice about the house, barn, or stable rather than abandon the dwellings of man.

The twigs with which the outward parts of the nest are constructed are short and crooked that they may the better hook in with one another. The hole or entrance is so much shut up to prevent the intrusion of snakes or cats that it appears almost impossible that the body of the bird could get in. On the inside

there is a layer of fine dried stalks of grass, and lastly of feathers. There are six or seven, and sometimes nine eggs, of a red-purplish flesh color, innumerable fine grains of that tint being thickly sprinkled over the whole surface. Two broods are generally raised each season, the first leaving the nest about the 1st of June, the second in July.

The little bird has a strong antipathy to cats; for having frequent occasion to glean among the currant bushes and other shrubbery in the garden, those lurking enemies of the feathered race often prove fatal to him.

The immense number of insects which this sociable little bird removes from the garden and fruit trees ought to endear him to every cultivator, even if he had nothing else to recommend him. But his notes, loud, sprightly, tremulous and repeated every few seconds with great animation, are extremely agreeable. In the heat of summer, families in the country often dine on the piazza under green canopies of vines and creepers, while overhead the trilling vivacity of the Wren, mingled with the warbling mimicry of the Mockingbird and the distant softened sounds of numerous other songsters, form a soul-soothing music, breathing peace, innocence and repose. In strength of tone and execution the song of this species is far superior to that of the European Wren.

The food of the House-wren consists of insects and caterpillars. While supplying the wants of its young, it destroys, on a moderate calculation, many hundreds of these pests a day, thus greatly reducing their ravages. It is a bold and insolent bird against those of the Titmouse or Woodpecker kind that venture to build within its jurisdiction, attacking them without hesitation, though they be twice as large, and generally forcing them to decamp. Even the Bluebird, who claims an equal and, as it were, hereditary right to the box in the garden, when attacked by this little impertinent, sometimes relinquishes the contest, the mild placidity of his disposition not being a match for the fiery impetuosity of his little antagonist. With those of his own species, who settle and build near him, he has frequent squabbles.

In summer the House-wren is found throughout the eastern United States, west to Michigan and Indiana, and north to southern Ontario and Maine. It migrates southward in autumn, and is found throughout the year in southern States east of Louisiana.

The Northern Phalarope (*Phalaropus lobatus*).

By W. Leon Dawson

Description.—*Adult female in summer*: Above and on sides of breast and sides (narrowly) slaty with a drab cast, blackish on back and scapulars, and edged here with light ochraceous; wings darker slaty gray, the greater coverts broadly tipped with white, forming a transverse bar; sides of neck and lower throat rufous,—pure on sides, more or less mixed with slaty gray on throat; chin and under parts entirely white; bill black; feet yellow, lobate and semipalmate, most extensively between middle and outer toes. *Adult male*: Similar, slightly smaller, and of duller coloration, save that the black of back is more decided, and the ochraceous edgings of upper parts deeper. *Adults in winter*: Without rufous; more extensively white; crown and auriculars (connecting below eye with a similar spot in front of eye) and median stripe of hind-neck dusky gray; the rest white; remaining upper parts blackish (centrally) and dusky gray, extensively edged and striped with cream-buff and white; wing-bar as before; sides of breast grayish clouded. *Immature*: Similar to adult in winter, but with more black above; breast usually tinged with buffy or brownish. Length 7.50 (190.5); wing 4.53 (115.1); tail 2.02 (51.3); bill .85 (21.6); tarsus .77 (19.6); middle toe and claw .80 (20.3).

Recognition Marks.—Chewink size; slaty gray, rufous, and white of head and neck in spring plumage; slender, black bill, less than one inch long, *with scalloped feet* distinctive in any plumage.

Nesting.—Does not breed in Ohio. *Nest*, a slight depression in the ground, lined with moss and grass. *Eggs*, 3 or 4; olive-buff or pale olive-gray, heavily speckled, spotted or blotched with dark brown. Av. size, 1.19 x .83 (30.2 x 21.1).

General Range.—Northern portions of northern hemisphere, breeding in Arctic latitudes; south in winter to the tropics.

NOTHING can exceed the exquisite grace of this delicate bird as it moves about, not at the water's edge, like other waders which it so closely resembles in appearance, but up the surface of a pool or even on the bosom of the deep. As it swims it nods with every stroke.

This Phalarope belongs to the shore birds and to a family that contains but three known species. Two of these are sea birds. The other, Wilson's phalarope, is an inhabitant of the interior of North America. Their feet are webbed, and usually the two marine forms, or sea snipe, as they are sometimes called, migrate in flocks far from land. Mr. Chapman says: "I have seen it in great numbers about one hundred miles off Barnegat, New Jersey, in May. For several hours the steamer passed through flocks, which were swimming on the ocean. They arose in a body at our approach, and in close rank whirled away to the right or left in search of new feeding grounds."

It is not an exaggeration to say that it is one of the most beautiful of our aquatic birds. All its motions are graceful. It possesses a quiet dignity and elegance while swimming in search of food, which it frequently obtains by thrust-

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NORTHERN PHALAROPE

Phalaropus lobatus

2 1/2 Life-size

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ing its bill into the water. In this manner it obtains a large number of marine animals and flies that may be on the surface of the water. When on the shore it may be seen wading and swimming in ponds near the coast.

Dr. Coues wrote in an interesting manner of this bird. He said that the Northern Phalarope is "a curious compound of a wader and swimmer. Take one of our common little sandpipers, fit it for sea by making oars of its feet, and launch it upon the great deep, you have a Northern Phalarope. You may see a flotilla of these little animated cockle-boats riding lightly on the waves anywhere off the coast of New England."

Its habits at the mating season are most interesting, and no words can better describe them than those of Mr. E. W. Nelson: "As the season comes on when the flames of love mount high, the dull-colored male moves about the pool, apparently heedless of the surrounding fair ones. Such stoical indifference usually appears too much for the feelings of some of the fair ones to bear. A female coyly glides close to him and bows her head in pretty submissiveness, but he turns away, pecks at a bit of food and moves off; she follows and he quickens his speed, but in vain; he is her choice," and she proudly arches her neck and in mazy circles passes and repasses close before the harassed bachelor. He turns his breast first to one side, then to the other, as though to escape, but there is his gentle wooer ever pressing her suit before him. Frequently he takes flight to another part of the pool, all to no purpose. If with affected indifference he tries to feed she swims along side by side, almost touching him, and at intervals rises on wing above him and, poised a foot or two over his back, makes a half-dozen quick, sharp wingstrokes, producing a series of sharp, whistling noises in rapid succession. In the course of time it is said that water will wear the hardest rock, and it is certain that time and importunity have their full effect upon the male of this Phalarope, and soon all are comfortably married, while mater familias no longer needs to use her seductive ways and charming blandishments to draw his notice."

Then after the four dark and heavily marked eggs are laid the "captive male is introduced to new duties, and spends half his time on the eggs, while the female keeps about the pool close by."

The Golden-Crowned Kinglet (*Regulus satrapa*)

By W. Leon Dawson

Description.—*Adult male*: Crown-patch (partially concealed) bright orange or flame-color (cadmium orange); a border of plain yellow feathers over-lying the orange on the sides; these in turn bordered by black in front and on sides; extreme forehead white, connecting with white superciliary stripe; a dark line through eye; above bright olive-green, becoming olive-gray on nape and side of head and neck; wing-quills and tail-feathers much edged with light greenish yellow, the former in such fashion as to throw into relief a dusky spot on middle of secondaries; greater coverts tipped with whitish; underparts sordid white, sometimes dusky-washed, or touched on sides with olivaceous. *Adult female*: Similar, but with crown-patch plain yellow instead of orange. *Immature*: Without crown-patch or bordering black, gradually acquiring these through gradation of color. Length about 4.00 (101.6); wing 2.26 (57.4); tail 1.71 (43.4); bill from nostril .21 (5.3).

Recognition Marks.—Pygmy size; orange, or yellow, and black of crown distinctive.

Nesting.—Does not breed in Ohio. *Nest*, pensile, but receiving auxiliary support from sides; of moss, lined with fine inner-bark strips, black rootlets, and feathers; in coniferous trees, usually at considerable heights. *Eggs*, 8-10, in two layers, creamy white or sordid cream-color, dotted, spotted, and blotched with pale wood-brown, and sometimes obscurely with lavender. Av. size, .54 x .40 (13.7 x 10.2).

General Range.—North America generally, except Pacific Coast, breeding in the northern and elevated parts of the United States, and northward; migrating southward in winter to Guatemala.

Our artist has done well to picture the royal midgets among the autumn leaves. It is when the crimson and gold are being lavished on every hillside and the year is sinking in sumptuous splendor that these little whisperers steal in upon us almost unnoticed. But when the transient glory of the trees has turned to sodden mold, the cheerful company of Kinglets is still to be found—ungarnered leaves too full of sap for October's vintage, staunch potentates unshaken by the winter winds.

It is passing strange that bits of birdanity no bigger than Hop-o'-my-Thumb should prefer to spend the winter with us, but so it is, and we are mightily cheered by their presence. Zero weather has no terrors for them and the good fellowship of winter seems in no wise marred by storms.

Kinglets go in troops which keep a little to themselves, but which are still enrolled in the membership of some larger bird-troop of winter. Brown Creepers, especially, affect their company with a persistence which must sometimes be a little vexing to the more vivacious birds; but there is no complaint or hauteur

on the part of the latter, only royal tolerance. Evergreen trees are most frequented by Kinglets, and here they are almost invariably to be found during the severest weather. With tireless energy they search both bark and twigs for insects' eggs and larvae scarce visible to the human eye. They flutter about at random, hang head downward if need be, dart and start and twist and squirm, until one frequently despairs of catching fair sight of the crown for the necessary fraction of a second. Of course it's a Golden-crown; but then, we want to see it.

And all the time Cutikins is carrying on an amiable conversation with his neighbor, interrupted and fragmentary to be sure, but he has all day to it—*tss-tisp-chip-tseek*. If you draw too near, *chip* can be made to express vigorous disapproval. Only now and then does one hear snatches of the northern song. It has something of the quality and phrasing of the better-known Ruby-crown's, but lacks distinctness, and is perhaps not so loud. One May morning a large company of Golden-crowned Kinglets held a concert in the trees of the Oberlin College campus. The fresh-leaved maples fairly resounded to their spirited music for a space of fifteen minutes; then all was silent. The Kings recollected themselves.

The Broad-Tailed Humming-Bird

(*Selasphorus Platycercus*)

By Gerard Alan Abbott

If we desire to study the Broad-tailed Humming-bird in the regions that it frequents we must journey to the mountainous district of western North America. Here it may be found in large numbers, for it is the most common of all the species that frequent the mountains. It seeks its food of insects and honey from the flowers of a prolific flora extending from Wyoming and Idaho southward through Colorado, New Mexico, Arizona, Texas, and over the table lands of Mexico into Guatemala. It is pretty generally distributed throughout the various mountain systems between the eastern slopes of the Rocky Mountains and the Sierra Nevadas.

The broad-tails are very abundant in the balsam and pine belts of the San Francisco Mountains of Arizona, where their principal food plants are the scarlet trumpet flower and the large blue larkspur.

It seems strange and unnatural that so delicate a bird and one so highly colored should frequent localities where periods of low temperatures are common. Yet the broad-tailed humming-bird prefers high elevations and has been known to nest at an altitude of eleven thousand feet, and it seldom breeds at places lower than five thousand feet.

The males leave for their winter home very early in the season. Usually this migration takes place very soon after the young birds leave their nests. Mr. Henshaw attributes this movement of the males to the fact that their favorite food plant, the Scrophularia, begins to lose its blossoms at this time. He says: "It seems evident that the moment its progeny is on the wing and its home ties severed, warned of the approach of fall alike by the frosty nights and the decreasing supply of food, off go the males to their inviting winter haunts, to be followed, not long after, by the females and young. The latter, probably because they have less strength, linger last."



BROAD-TAILED HUMMINGBIRD.
(Selasphorus platycercus.)
Life-size.

The Tufted Titmouse (*Baeolophus bicolor*)

By W. Leon Dawson

Description.—*Adult*: Above ashy gray, deepest on top of head; forehead sooty black; a conspicuous crest; sides of head and below ashy white, strongly washed with rusty on sides and flanks; bill plumbeous-black; feet plumbeous. *In winter*: The back and, usually, edgings of wing and tail more or less tinged with olive; the lower parts tinged with brownish, especially on breast. *Immature*: Less distinctly black on forehead; not so rusty on sides; bill light, except along culmen. Length, 5.75-6.50 (146.1-165.1); wing 3.13 (79.5); tail 2.67 (67.8); bill .43 (10.9).

Recognition Marks.—Sparrow size; black forehead and ashy blue crest; plain coloration in ash, whitish, and rusty.

Nest, in a hole in stump, beech-stub, or tree, of leaves, bark, corn-pitch and trash, lined with hair or feathers. *Eggs*, 5-8, white or creamy-white, evenly spotted and speckled with reddish brown. Average size, .71 x .55 (18. x 14.).

General Range.—Eastern United States to the Plains, north to northern New Jersey and southern Iowa; casual in southern New England. Resident throughout its breeding range.

"I don't know for the life of me what the fuss is all about, but I know there is the greatest commotion going on right under my nose. On a single branch of a scraggly hillside tree—said branch being horizontal, twelve feet long, and fifteen feet above the ground—there were gathered at practically one and the same time the following birds: Tufted Tits, three to six, Blackcapped Chickadees, three or four, Carolina Wrens, three, Downy Woodpeckers, three, Wood Pewees, two or three, one Rey-eyed Vireo, one Yellow Warbler, one Phoebe, an Indigo Bunting, a Redstart, one very small Crested Flycatcher and several English Sparrows—some twenty or more birds of at least twelve species—each vociferating, scolding, denouncing or at least anxiously inquiring, and many, for the lack of better employment, fighting withal. It only lasted half a minute after I arrived, but it was a stirring time while it was on, and I am all a-tremble with excitement myself. What does it all mean, anyway? The Tufted Titmice, I think, started the hubbub; but whether one of their youngsters was choking on a June bug, or had up and slapped its mother, I cannot tell." So runs the writer's note-book under date of June 17, 1902, in recording one of the most intense little episodes of bird life ever witnessed. It was just like those Titmice, anyway—inquisitive, irascible, hysterical, always kicking up a shindy among the birds. In some of their antics they are like spoiled children, but their very sauciness is their salvation.

The Titmouse is the major domo of the winter bird troop. His military crest marks him out for such an office, and his restless way of fussing up and down the line gives him a show of authority over the Nuthatches, Creepers, Woodpeckers, Chickadees, and Cardinals, which compose that motley company. He is, indeed,

a most important personage, in his own eyes; but on one else takes him over seriously, and his pretensions are slyly encouraged by the knowing ones, as affording a prospective diversion amidst the tedium of winter.

The Tufted Tits come of hardy stock; although somewhat less common in the northern portion of the state, there is no other evidence that they mind the severity of winter. The average Titmouse family, too, approaches near the proportions that our grandfathers believed in. With six or eight youngsters in a brood and two broods in a season, it is a wonder that they do not overrun the land.

Nests consist of well-lined cavities like those of the Chickadee, but the excavations more frequently follow natural lines; and for the sake of getting an easy start through an inconspicuous knot-hole, the birds will range up to thirty or forty feet in height. Less frequently deserted Woodpeckers' nests are used, and fresh holes are dug in green or rotten wood.

The *cheevy, cheevy* call of the Titmouse is one of the most familiar sounds of the woods and village groves. More loud and clear is the *Peter, Peter*, or *peto, peto* note of springtime. As a distinct modification of the first named note there is a rare musical *chöö-y, chöö-y*, which has in it much of the flute-like character of the Wren's song. The latter bird is very apt to answer this cry with his "*Richelieu*" note, as though he were challenged to utterance. If one is accustomed only to these clear whistled calls, it comes as a great surprise when the Titmouse bursts out with a *Chick-a-dee, Chich-a-dee-dee*, almost precisely like that of his black-capped cousin.

Under date of March 31st I find: "The neighboring woods are haunted, and have been for a week or more past, by a love-lorn Titmouse who repeats *Peto, peto, peto, peto* with rapid enunciation and wearisome iteration. The bird utters this cry in groups, as above, on an average of about thirteen times a minute, and keeps it up all day long. During these days he ranges high in the trees, but stops only ten or fifteen seconds in a place,—about long enough to repeat his burden four or five times. Then comes a hiatus of a few seconds, during which time he is flitting to another perch. At a casual glance it looks as though Mary Ann had retired to the depths of some unknown knot-hole to escape this silly chap, and we heartily wish that we might follow suit."

Blue-Winged Teal (*Querquedula discors*)

Range: Breeds from central British Columbia, Great Slave Lake, central Ungava, and Newfoundland south to central Oregon, northern Nevada, northern New Mexico, central Missouri, southern Indiana, northern Ohio, western New York, and Maine; winters from southern British Columbia, Arizona, southern Illinois, Maryland, and Delaware south to the West Indies and South America as far as Brazil and Chile.

Formerly abundant and nesting over much of eastern United States, the blue-wing still inhabits most of its former range, but is numerous only in the Middle West. Though found west of the Rockies, it is there replaced for the most part by the cinnamon teal. Its habits may be described in much the same terms as those of its congener, the green-wing. Like that bird, it also is a lover of fresh-water ponds and streams with grassy banks. The blue-wing migrates south early, and teal shooting in early September in some localities is one of the sporting events of the year. Extremely fond of wild rice, this duck is generally regarded as a tidbit, and it is at its best when it has fattened on this nutritious seed. Though extremely swift of wing, its speed avails it little in the long run, since it is tame and unsuspicious, decoys well, and is easily approached and potted when feeding in its grassy coverts. How much the abolition of spring shooting will accomplish for this and the green-wing remains to be seen. Should it fail, then the most stringent protective measures as to short open season and bag limit will have to be adopted if these attractive little teal are to remain with us.

The House-Wren (*Troglodytes aedon Vieill*)

By Lynds Jones

Description.—Adult: Above, grayish rufous-brown, duller and lighter on fore parts; brighter and more rufous on rump, which has concealed downy white spots; back indistinctly barred with dusky; wings on exposed webs and tail all over distinctly and finely dusky-barred; sides of head speckled grayish brown, without definite pattern; below, light grayish brown, indistinctly speckled or banded with darker brownish on fore parts; heavily speckled and banded with dusky and whitish on flanks and crissum; bill black above, lighter below, culmen slightly curved; feet brownish. Length 4.50-5.25 (114.3-133.3); wing 2.08 (52.8); tail 1.67 (42.4); bill .47 (11.9).

Recognition Marks.—Warbler size; brown above, lighter below; everywhere more or less speckled and banded with dusky, brownish, or white.

Nest, of sticks and trash, lined with fine grasses or chicken-feathers, placed in bird-boxes, holes in orchard trees, crannies of out-buildings, etc. *Eggs*, 4-8, white, heavily speckled, and usually more or less tinged with pinkish brown or vinaceous, with a wreath of a heavier shade about the larger end. Average size, .64 x .51 (16.3 x 13.).

General Range.—Eastern United States and southern Ontario, west to Indiana and Louisiana. Resident from the middle districts southward.

Many years ago this cunning little bird gave up its woodland retreats and adopted the white man. The unconscious lure which led to this result was doubtless the abundance of toothsome worms, which had already adopted man's apples and currants and cabbages. Since that time the discerning have always put out boxes and gourds or cans to encourage the residence of this sprightly and valuable friend. The mutual benefit association thus formed worked admirably, until the advent of the English Sparrow, but since that evil day the Wren has fought a losing battle. If one could believe in the survival of the "sassiest" the odds would still be in his favor, but the Wren alas! has not learned the value of co-operation, and his tiny beak, however valiant, is no match for the concerted action of the aliens. The American Wren must go.

For some reason, too, the near presence of its cousins, the Carolina and Bewick Wrens, does not seem to be congenial to this bird, and it has retired before the latter species, apparently without dispute, from the southern third of the state; and one finds it commonly only where neither of the others is to be found.

Arriving about the middle of April, the House Wren—or Jenny Wren, as it is fondly called—proceeds immediately to renovate last year's quarters, and to season the task with frequent bursts of song. In singing his joyous trill the bird reminds one of a piece of fireworks called a cascade, for he fills the air with a brilliant bouquet of song, and is himself, one would think, nearly consumed by

the violence of the effort. But the next moment the singer is carrying out last year's feather-bed by great beakfuls, or lugging into some cranny sticks ridiculously large for him.

During the nesting season both birds are perfect little spithires, assaulting mischievous prowlers with a fearlessness which knows no caution, and scolding in a voice which expresses utmost contempt. The rasping notes produced on such an occasion remind one of the energetic use of a nutmeg-grater by a determined housewife.

In providing a nest the birds usually seek to fill up the chosen cavity, whatever it be—an old coffee pot, a peck measure, a sleeve or pocket of an old coat, or a mere knot-hole—with sticks and trash. Within this mass, or preferably on the top of it, a heavily-walled cup of chicken feathers is placed, and these are held in shape by a few horse-hairs. I once found a set of Wren's eggs in the deserted nest of a Barn Swallow. Even here the second tenants had relined the nest, until there was barely room to insert the fingers between the edge of the nest and the roof of the building.

No infrequently, whether because of the incessant persecutions of the Sparrows, or from a recurrence of ancestral tastes, nests are found far from any human habitation, in a crevice of a worm fence or in a decayed stump at the edge of the swamp.

Eggs are deposited at the rate of one each day, and incubation lasts fourteen days. Two and often three broods are raised in a season, the eggs of each succeeding set usually being less in number.

The Woodpecker

He's the sassiest critter that ever I see!
An' he sets there a-peekin' an' bobbin' at me,
While he's carvin a notch in the wind-shaky crotch
O' that moss-covered hickory tree.
Dinged if ever I see such a tormentin' bird!
When I woke up this mornin', the first thing I heard
Was his "rubby-dub-dub" on an ol' holler stub—
'Fore the other fowls twittered 'r stirred.

See im set there a-peckin' that worm-eaten limb,
An' a-winkin' at me as I'm talkin o' him;
While his hard bullet head shinin' glossy an' red
Drives a bill like a thorn, black an' slim.
Seems in teasin' a feller he takes a delight;
An' he'd rather be killed in a one-sided fight,
Than to give up the grub he has found in that stub—
'R to show the white feather, in flight.

He's the beatenest bird—an' he don't care a straw!
W'y, he takes what he wants, without license 'r law,
An' he chatters with fun at the crack of a gun—
While he's fillin' his famishin' craw.
I'll be hanged if I don't kind o' fancy 'im though—
He's so blamed independent an' keerless, you know;
An' I'd feel sort o' bad—an' consider'ble sad,
If he'd mind by complainin' an' go.

James Ball Naylor.

Slate-Colored Junco (*Junco hyemalis*)

Length about 6 1/4 inches.

Prevailing color grayish slate, belly white; outer tail feathers tipped with white.

Range: Breeds in much of Alaska and Canada and in the mountains of New York, Pennsylvania and Massachusetts, while a nearly related form (the Carolina Junco) breeds in the southern Alleghenies; winters throughout the eastern states to the Gulf.

Only one junco inhabits the eastern United States, but several species live in the west. All of the members of the group resemble each other in a general way and all have similar habits. Most of us know the junco only in the fall and when, after having summered in the mountains of the more northern districts, the birds gather in large flocks and forsake high altitudes for more congenial surroundings. The junco associates with other sparrows, usually far outnumbering them, but its slate-colored plumage and white tail feathers reveal its presence unmistakably. Its familiar "tsip" may be easily recognized among the medley of notes, but its low sweet song is to be heard at its best only in its Alpine home. Nevertheless, as the late migrants shape their course for the northern woods, it is not uncommon to hear the males of a flock burst into song, as if they really could not be content to remain silent any longer. When snow is on the ground the juncos are often hard pushed for food and on such occasions a flock will readily respond to an invitation to visit the dooryard and dine on table crumbs or small seeds of any kind.

The junco is one of our most persistent grass and weed seed eaters and in winter and spring seeds constitute much the greater part of its fare. Taking the year around, about one-fourth of its food consists of insects, including leaf beetles, weevils, caterpillars, grasshoppers and many others.

The Arctic Towhee (*Pipilo Maculatus Arcticus*)

By I. N. Michell

The Arctic, or Northern, Towhee is a bird of high altitudes and latitudes. Its breeding range is somewhat restricted, including the plains of the Platte, upon Missouri, Yellowstone and Saskatchewan rivers and the regions westward to the eastern slope of the Rocky Mountains. In the winter it passes southward, finally reaching the state of Texas. Throughout its range it frequents streams and shores that are bordered with bushy underbrush. In some localities, as in the valley of the Great Slave Lake, this species is very abundant.

"The Arctic Towhee appears in the vicinity of Idaho Springs about the middle of May and in the course of a week or two becomes rather common, though never very abundant. It becomes rare above 8,500 feet, and above 9,000 feet disappears altogether, being most numerous from 7,500 feet down to the plains. In habits and appearance it is quite similar to the eastern towhee, but is much shyer and is easily frightened, when it hides in the bushes until all appearance of danger has passed by. It utters the 'chewink' of the eastern towhee, or a note almost exactly like it, though a little lower and more wiry."

The towhees obtain a large share of their food by scratching among the fallen leaves that lie upon the ground under the underbrush that they frequent. The Arctic towhee will respond to a whistled call, though it is not as inquisitive as the eastern species.

Its nest is placed on the ground, in a slight depression scratched out by the bird, and is usually under the protecting shadows of shrubs. The nest, the rim of which is flush with the ground, is "strongly built of bark strips, blades of dry grass, and usually lined with yellow straw."

Enormous Number of Robins

The immense concourses of passenger pigeons, remembered by many now living and so graphically described by Wilson, Audubon, and other early ornithologists, are common knowledge. But that the robins of America are today far more numerous than the passenger pigeons ever were, and that many other species outnumber them also—perhaps three to one—is not generally appreciated. The gregariousness of the pigeons, causing them to unite in a few great flocks, made the number much more manifest than do the scattered small bands and individuals of other birds. Yet when we reflect that robins nest over an area extending at its farthest limits from Mexico to the Arctic ocean and from the Atlantic to the Pacific, and that in much of this vast territory they are fairly crowded, it is easy to conjecture what an immeasurable army they would make if gathered into one flock.—Henry Oldys in "Bird-Lore."



Courtin' Tam In De Woodlan'

(A French-Canadian Ballad.)

By Lew R. Sarett

Oh, eet's courtin' tam' in de woodlan'!
De sap shé's in de trees;
Wit' love de birds dey're seengin'
 On de wil' Canadian breeze.
De r-redhead woodpeck's dr-runinin'
 On de top-mos' hollow leemb,
W'ile he look to see so h-anxious
 Eef hees lady come to heem.
An' de hermit t'rush he's fitin'
 On de swamp lak he don't care
No more to be wan hermit,
 W'en de spreeng she's in de air!

Oh, eet's courtin' tam' in de woodlan'!
Hear de pa'tridge dr-rum all day!
W'ile hees ladies gadder 'roun' heem,
 An' admire how he play!
De r-redweeng blackbird's sweengin',
 W'ile he pipe hees "Gug-le-gee!"—
Dat's hees fonny way of callin',
 "Please, lady, look on me!"
An' de cr-row, w'ile he aint sweet seenger,
 For tunes he aint got no han',
Lak me he mak' for hees music,
 De beeges' noise he can.

Oh, eet's courtin' tam' in de woodlan'!
How de lark flute ev'ryw'ere,
W'ile hees ma'm'selle hide in de willow,
 An' play lak she don't care!
De vi'llet look her sweetes'
 For to catch dose bomble-bee;
An' Jomp-op Johnny dressin'
 Lak he's goin' on gran' ol' spree.
An' now de ev'nin's fallin,—
 Jus' hear dose wailin' loon!
An' de lonesome wolf he's howlin'
 For hees lady in de moon!

Oh, eet's courtin' tam' in de woodlan'!—
 Ba Gosh! Dat's good idee!
I'm dress up—me—lak de blue jay,
 An' court ma gairl Marie!
An' dough ma voice seengs fonny,
 Lak saws cut de knots in pine,
I'll tak' ma ol' accord'yon,
 'Cos I mak' dose music fine.
Eef de sparrow, er-row an' cow-bird,
 So homely as can be,
Can win som' gairl in de spreengtami',
 Ba Gar! dere's chance for me!

Wood Duck (*Aix sponsa*)

Range: Breeds from southern British Columbia, central Saskatchewan, northern Ontario, New Brunswick, and Nova Scotia south to central California, southern Texas, Florida, and Cuba; winters chiefly in the United States from southern British Columbia, Kansas, Illinois, Indiana, Pennsylvania, and New Jersey south to southern California and the Gulf of Mexico.

However divided the sportsmen of America may be on the many questions affecting their rights and privileges, they should one and all unite in an attempt to preserve the existence of the wood duck, perhaps the most beautiful of the duck tribe. It is true that in some sections of the country the wood duck is still far from uncommon, but no one conversant with the present state of affairs can examine the records of its former range and abundance without being convinced that the danger threatening the species is real and imminent; nor need recorded evidence alone be relied upon, for there are many sportsmen alive today whose memories go back to the time when this beautiful bird abounded in most of the wooded sections of eastern United States, where today few, if any, remain. A regulation under the Federal migratory bird law provides a closed season for the wood duck until 1918, and if this prohibition is faithfully observed, there is every reason to believe that the species will materially increase, more particularly as in states where it is wholly protected, or protected in spring, an increase in numbers has already been noted. It will be to our everlasting shame if this, one of the most perfect of Nature's creations, is allowed to meet the same fate as the passenger pigeon. Practically all the wood ducks nest and winter within our own boundaries and it is for us to say what shall be their fate.

Killdeer (*Oxyechus vociferus*)

Range. Breeds from central British Columbia, southern Mackenzie, central Keewatin, and central Quebec south to Gulf coast and central Mexico; winters from California, Arizona, Texas, Indiana, New Jersey, and Bermuda south to Venezuela and Peru.

The killdeer is unquestionably one of the most widely distributed and one of the best known of the plover tribe. The bird student who makes its acquaintance need not ask its name, for the bird never tires of repeating it at all seasons. Its vociferous iteration of "killdeer, kill deer" brings down on its offending head the wrath of the sportsman whose cherished plans for a successful stalk of a flock of ducks are upset by its excited cries, rightly interpreted by the ducks as signals of danger not to be neglected.

Though the killdeer is a plover, he cares very little for the seacoast, nor overmuch for the neighborhood of water, but finds all his wants supplied in upland pastures and plowed lands. His bill of fare is a long and varied one, and includes many pestiferous kinds of insects. As the bird's flesh is little esteemed and its services are of decided value to man, no very good reason appears why the species should not flourish. But though the bird is still numerous, it has been exterminated in many localities. As it is now protected under the Federal law we may look to see it again occupy territory from which it has been long absent. There is the more reason to expect this since the killdeer responds quickly enough to decent treatment, as is evidenced by the fact that a pair has nested for three successive seasons on a golf course near Washington, D. C. Despite the fact that the location of the nest was known to at least a hundred players and caddies, and that the piece of "rough" in which the nest was located was invaded scores of times daily, the birds were successful in bringing out their young each year, though plovers never had a more exciting time doing it.

The Great-Tailed Grackle (*Megaquiscalus Major* *Macrourus*)

By W. Leon Dawson

The Great-tailed Grackle belongs to a family of birds that is "eminently characteristic of the New World, all the species being peculiar to America." It is the family of the blackbird and oriole, of the bobolink and the meadowlark. It is called the Icteridae, from a Greek word ikteros, meaning a yellow bird. The majority of the one hundred and fifty or more species that are grouped in this family make their home in the tropics where their brilliant colors are emphasized by the ever green foliage and the bright sunshine.

The family is interesting because the species, though closely related, vary so widely in their habits. They "are found living in ground of every nature, from dry plains and wet marshes to the densest forest growth." Here are classed some of the birds which are among the most beautiful of our songsters. Here, too, are classed some species that never utter a musical sound, and whose voices are harsh and rough. The sexes are usually dissimilar, the female being the smaller and generally much duller in color.

The Great-tailed Grackle is a native of Eastern Texas, and the country southward into Central America. The Grackles are sometimes called Crow Blackbirds. There are five species, all found in the United States. The Bronzed and the Purple Grackles are the most generally distributed and best known.

The Great-tailed Grackle, as well as the other species, usually builds rude and bulky nests in trees, sometimes at quite a height from the ground. It will also nest in shrubs and it is said that it will occasionally select holes in large trees. The males are an iridescent black in color and the females are brown and much smaller. Both sexes spend most of their time on the ground. Their feet are strong and large, and, when upon the ground, they walk or run and never hop.



GREAT-TAILED GRACKLE.

(*Quiscalus mexicanus*)

$\frac{1}{2}$ Life-size.

Birds as Preservers of Vegetation

By L. W. Brownell

It is fairly safe to assert that were it not for the birds this world would very shortly be entirely bereft of its vegetation for it is almost certain that man alone without the aid of the birds could not wage a winning war against the immense armies of vegetation destroying insects. Even with the aid of the birds the insects frequently gain the upper hand and cause tremendous loss to the agriculturist as is evidenced by the reports of Dr. Marlatt of the United States Department of Agriculture. In 1904 he made extensive and most careful investigation and estimated that the loss to agriculturists, and consequently to the world, for that year from insect depredations reached the grand total of seven hundred and ninety-five millions of dollars. This seems almost incredible but it was thought to be a conservative estimate and the losses have increased rather than decreased since then.

Many of my readers may think that by my statement I am exaggerating the importance of the birds as to their value to mankind, but now let us see what the birds actually accomplish as insect destroyers.

The young of the majority of our birds are fed upon insects and nothing else for the first few weeks after they are hatched and many are insect eaters all their lives. The young are voracious eaters and are fed by their parents on an average of every five or six minutes during the day, and their day begins at daylight and does not end until dark. At each visit of the old birds they bring from one to a dozen insects and this does not take into consideration those that they eat in the meantime. Thus it will be seen that a single family of birds will consume several hundred insects in a day. In fact it has been estimated by careful observation that a family of young birds will destroy from five to twelve hundred insects daily. Besides the actual insects themselves many birds destroy great masses of insect eggs often reaching into the thousands in a day. When we think of the really great army of birds that are being reared, and incidentally fed, at the same time throughout the country we can gain some idea of the stupendous number of insects that are daily destroyed by them.

These facts, taken into conjunction with the facts concerning the destruction done by the insects in spite of the birds, will serve to show us what would inevitably happen if we did not have the birds to hold the insects in check.

To offset the good that they do a few birds on the farm may eat a few cherries or berries, but can we not well afford to pay this small price for the inestimable services which they perform for us?

The Knot or Robin Snipe (*Tringa Canutus*)

By C. Hart Merriam

The Knot or Robin Snipe is a bird of several names, as it is also called the Red-breasted Ash-colored Sandpiper, the Gray-back and the Grap Snipe. It is quite cosmopolitan, breeding in the far north of both hemispheres, but in winter migrating southward and wintering in the climate of the southern United States and Central America. The Knot belongs to the Snipe family (Scolopacidae), which includes one hundred or more species, about forty-five of which are inhabitants of North America. Nearly all the species breed in the higher latitudes of the northern hemisphere. These birds frequent the shores of large bodies of water and are seldom observed far from their vicinity. Their bills are long and are used in seeking food in the soft mud of the shore.

The Knot visits the great lakes during its migrations and is frequently observed at that time. Its food, which consists of the smaller crustaceans and shells, can be as readily obtained on the shores of these lakes as on those of the ocean, which it also follows.

Dr. Ridgway tells us that "Adultry specimens vary individually in the relative extent of the black, gray and reddish colors on the upper parts; gray usually predominates in the spring, the black in midsummer. Sometimes there is no rufous whatever on the upper surface. The cinnamon color of the lower parts also varies in intensity."

Little is known of the nest and eggs of the Knot owing to its retiring habits at the nesting time and the fact that it breeds in the region of the Arctic Circle, so little frequented by man. One authentic report, that of Lieutenant A. W. Greely, describes a single egg that he succeeded in obtaining near Fort Conger while commanding an expedition to Lady Franklin Sound. This egg was a little more than an inch in length and about one inch in diameter. Its color was a "light pea-green, closely spotted with brown in small specks about the size of a pinhead."



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KNOT OR ROBIN SNipe.

(*Tringa canutus*).

About $\frac{3}{4}$ Life size.

In Praise of Swallows

By Robert Sparks Walker

No other group of birds contributes more than do the swallow to the welfare of the human race. They constitute a well defined group, and they won this high rank as benefactors both to man and beast by their persistent work in ridding the atmosphere of annoying and dangerous insect pests. It is difficult indeed correctly to imagine just what might be the fate of man in many parts of the world, if these busy creatures should fail to appear at the proper season when flies, gnats, mosquitoes and other dreaded insects make their appearance. Whether it is providential, or accidental, it is certainly an interesting coincidence that the faithful little swallows make their appearance simultaneously with the pestiferous insects upon which they feed. And where do these birds come from? As if by magic, they appear and disappear with the coming and going of warm weather. Very swift in flight, these graceful birds may be observed high in the heavens, turning graceful curves, darting here and there in pursuit of insect pests, and then in an almost shockingly short time may be observed skimming along at a rapid rate of speed down near the surface of the earth. The mouth of the swallow is very broad, beak short, which makes it an easy matter for it to gulf up the insects while flying at a rapid rate. From the habit of spending the most of their time on wing, they have developed two very short and rather weak legs.

The number of species of swallow is around eighty, and they are found in all parts of the world, excepting that portion near the poles. Those that inhabit the colder portions of the earth are migratory in habits. In the United States no person has ever found out just where our common swallows go to spend the winter. As cold weather comes on, they begin to move southward, stopping along the way to visit rivers, lakes or ponds, and then they finally disappear over the Gulf of Mexico. It is the general belief that the swallow spends its winters somewhere in South America.

Of the eighty species of swallow found in the world, only seven inhabit North America, and these range as far north as the Arctic Ocean. The largest swallow is the purple martin, and the smallest is the bank swallow. The latter is a wonderful little bird when it comes to performing work which seems utterly impossible. For its nest it digs out tunnels in sand banks which end in a large chamber. Just how it can construct these long tunnels with a poor set of tools is not well understood. Some will even utilize the abandoned holes made by neighboring birds.

The most common swallow found in North America is the barn swallow. The cliff or eaves swallow is another familiar bird that also commonly visits the barnyard. The former differs from the latter in that it possesses a very pronounced forked tail. Common throughout the United States is the white-bellied or tree swallow. It is a beautiful bird that wears a steel blue coat above and white beneath. The little violet-green swallow found in the western part of the

United States much resembles the tree swallow, but it measures only about five inches in length. The seventh and last species found in the United States is the rough-winged swallow.

The species of swallow found in South America by far outnumber those in the United States. As the country has become populated, these birds have left their wild places of abode, and have taken up life near the houses and barns, where they find great delight in nesting. Throughout the world the swallows have shown this gentle spirit of yielding to semi-domestication and it has made them a pleasing neighbor to man in far-off Africa, Asia, Australia, Europe and everywhere. Their pleasing habits have created a great growth of folk-lore, rich sentiment, and poetry in many lands.

The Dovekie (*Alle Alle*)

By Edward B. Clark

Length: 8 inches.

The Dovekie, commonly called Sea Dove or Little Auk, is a little fellow with short bill and legs, inhabiting the Atlantic Ocean from the Gulf of St. Lawrence northward. Dovekies probably do not breed south of Greenland; in winter they occur in New Brunswick, Newfoundland, and Labrador, becoming abundant off Exeter Sound and along the west coast of Baffin Bay.

Probably the most accessible breeding grounds are in Iceland. Many European bird lovers find that northerly spot much more accessible than any similarly located place to be reached from either side of the American continent. Iceland is a veritable bird paradise. Myriads of gulls, sea ducks, shore birds, and boreal land birds, such as the ptarmigan, gyrfalcon, and finches, haunt the bleak regions of this island. The Dovekie deposits her single large pale-greenish-blue egg in crevices of the sea cliffs.

In the far arctic, where all other birds perish, the Dovekie survives.



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DARK KELP
GULL

Larus
dominicanus

OYSTER CATCHER, BY A. W. MUMFORD, CHICAGO

A Little Song

Warm and wet was that day in June,
The sweet air thrilled with a robin's tune
 Carolled over and over.
The young girl's cheek was pink as the rose
That by the open doorway glows
 At the gaze of her bashful lover.

A playful hand held a perfect rose
 Close to the maiden's fairness
And challenged the gazing, bashful boy
In a rippling tone of purest joy,
 "Which one excels in rareness?"

Now sundered far are the happy three,
And the home is only a memory
 With its doorway framed by roses;
The bashful boy and the rosy maid
Are old and dignified and staid
 As the tale of the years uncloses.

But I love to think of that day in June,
 The girl and the bashful lover,
The wet pink rose and the robin's tune
 Carolled over and over.

MILLIE NOEL LONG.

OCTOBER.

October's garb with splendor glows
Ere buried by the winter snows,
As a long life, well-spent, that goes
Radiant and glorious to its close.

MILLIE NOEL LONG.

The Blue Mountain Lory

By Gerard Alan Abbott

This bird inhabits the vast plains of the interior of New South Wales. It is one of the handsomest, not only of the Australian parrots, but takes foremost place among the most gorgeously dressed members of the parrot family that are to be met with in any part of the world. It is about eleven or twelve inches in length. The female cannot with certainty be distinguished from her mate, but is usually a very little smaller. The lory seldom descends to the ground, but passes the greater part of its life among the gum trees, upon the pollen and nectar of which it mainly subsists. In times of scarcity, however, it will also eat grass seeds, as well as insects, for want of which, it is said, it often dies prematurely when in captivity.

Despite his beauty, the Blue Mountain Lory is not a desirable bird to keep, as he requires great care. A female which survived six years in an aviary, laying several eggs, though kept singly, was fed on canary seed, maize, a little sugar, raw beef, and carrots.

Like all the parrot family, these lories breed in hollow boughs, where the female deposits from three to four white eggs, upon which she sits for twenty-one days. The young from the first resemble their parents closely, but are a trifle less brilliantly colored.

They are very active and graceful, but have an abominable shriek. The noise is said to be nearly as disagreeable as the plumage is beautiful. They are very quarrelsome and have to be kept apart from the other parrots, which they will kill. The feathers of the head and neck are long and very narrow and lie closely together, the claws are strong and hooked, indicating their tree-climbing habits.



BLUE MOUNTAIN LORY.

(*Psittacus swainsonii*).

$\frac{3}{4}$ Life-size.

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The Wood Thrush

By W. Leon Dawson

Range—Eastern United States to the Plains, north to southern Michigan, Ontario, and Massachusetts; south in winter to Guatemala and Cuba. Breeds from Virginia, Kentucky and Kansas northward.

Altho all of our Thrushes are retiring in disposition, the Wood Thrush, perhaps because of his larger size, is the least so. The depths of the forest, indeed, claim him, but so too do the shaded lawns of village streets and city parks. In his woodland home this Thrush does not flee as tho a price had been set upon his head, but often comes forward—not too close—with a fit of inquiry and greeting.

The Wood Thrush spends considerable time on the ground looking for beetles and worms, but he is ready at a moment's notice to flutter up on a log or low branch, and stand there surveying you, flirting, or twinkling, the wings occasionally to indicate his perfect readiness for further retreat, or else ruffling and shaking his feathers as tho to shake off the memory of the mold. A false step now and he may disappear irrevocably down some forest isle; a quiet glance of admiration serves to reassure him, and he may resume his feeding.

There is an air of gentleness and good breeding about the bird, which goes a long way to disarm a wanton enemy, and one studiously hostile there could not be. Brighter than the other Thrushes in color, and marked unmistakably with heavy spots upon breast and sides, the Wood Thrush is further distinguished in a gifted family by its wonderful voice. The chanting of the Wood Thrush is one of the choice things in bird music. In the freshness of the undried morning the bird mounts a low limb and takes up a part in the grand anthem of nature, whose complementary voices may be lost to any ear less fine than his. The bird listens to the retreating foot-steps of the morning stars, and sings "*Far away—far away.*" Zephyr stirs the unfolding leaves with his boyish alto and our matchless tenor responds, "*Come to me—Here in glee—bide a weee,*" in cadences of surpassing sweetness. Altho the singer's voice is rich and strong, so that he may be heard at times for half a mile, there are at the same time grace notes and finer passages which only a near-by listener can catch. The notes, I am told by musical critics, are, of all bird notes, the most nearly reducible to ordinary musical notation; but the peculiar timbre of the bird's voice, the rich vibrant quality of the tones, is of course inimitable. Their utterance at morning and evening is something more than a clever musical performance; it is worship.

The typical situation for a nest is upon an overarching sapling, as shown in the nearest illustration. To secure a romantic site stability is sometimes sacrificed, and the nest, loosely saddled upon a narrow branch, may be toppled over by the wind or by a careless hand. At other times the nest is securely lodged upon the forks of a horizontal limb or upright sapling, and may prove very durable.

Upon a foundation of dry leaves are laid grass, fibres, and weed-stems; these are held in place by a matrix of mud or rotten wood, and the nest lined with rootlets or dead leaves. The mud-working must be disagreeable business for such dainty birds. I once came upon a mother mason at her task. Her bill and breast were all bedaubed with mud, and she cut such a sorry figure that she fled precipitately upon my approach and would not come back again.

According to Dr. Jones the same nest is occupied during successive seasons, especially if securely placed. Repairs are made each year, and consist either of a new matrix and lining or of the latter alone. He has one in his collection which shows four distinct yearly additions.

The brooding female is unusually devoted to her eggs, and altho in manifest terror of the "infernal machine" thrust up close to her nest, bravely returns to her charge again and again.

The Chickadee

By Thomas Nuttall

This familiar, hardy and restless little bird chiefly inhabits the northern and middle States, as well as Canada. In the latter country it is found even in winter around Hudson's Bay.

During autumn and winter families of these birds are seen chattering and roving through the woods, busily engaged in gleaning food. Along with the Creepers and Nuthatches they form a busy, active and noisy group, whose manners, habits and food bring them together in a common pursuit. Their diet varies with the season; for besides insects and their eggs, of which they are particularly fond, in September they leave the woods and assemble familiarly in our orchard and gardens. Sometimes they even enter cities in quest of food. Large seeds of many kinds, particularly those which are oily, are now sought after. Fat of various kinds is also greedily eaten, and the Chickadees regularly watch the retreat of the hog-killers in the country to glean up the fragments of meat which adhere to the places where the carcasses have been suspended. At times they feed upon the wax of the candleberry myrtle. They likewise pick up crumbs near the houses, and search the weather-boards, and even the windowsills for insect prey. They are particularly fond of spiders and the eggs of destructive moths, especially those of the canker worm, which they greedily devour in all stages of its existence.

In winter, when hunger is satisfied, they will descend to the snow and quench their thirst by swallowing small bits. In this way their various and frugal meal is always easily supplied; and hardy and warmly clad in light and very downy feathers, they suffer little inconvenience from the inclemency of the seasons. Their roost is in the hollows of decayed trees, where they also breed,

making a soft nest of moss, hair and feathers, and laying from six to twelve eggs, which are white, with specks of brown-red. They begin to lay about the middle or close of April, and though they commonly make use of natural or deserted holes of the woodpecker, yet they frequently excavate a cavity for themselves with much labor. The first brood takes wing about the 7th of 10th of June, and there is sometimes a second brood toward the end of July. The young, as soon as fledged, have all the external marks of the adult, the head is equally black, and they chatter and skip about with all the agility and self-possession of their parents, who appear nevertheless very solicitous for their safety.

From this time on the whole family continue to associate together through the autumn and winter. They seem to move in concert from tree to tree, keeping up a continued '*tshē-de-de-de-de*' and '*tshē-de-de-de-dait*', preceded by a shrill whistle, all the while busily engaged picking around the buds and branches, hanging from their extremities and proceeding often in reversed posture, head downward, like so many tumblers, prying into every crevice of the bark and searching round the roots and in every possible retreat of their insect prey or its larvæ. If the object chance to fall, they industriously descend to the ground and glean it up with the utmost economy.

Almost the only note of this bird which may be called a song, is one which is frequently heard at intervals in the depth of the forest, or from the orchard trees. Although more frequently uttered in spring, it is now and then whistled on warm days even in winter; it may be heard, in fact, in every month of the year. It consists of two, or, less frequently, three clearly-whistled and rather melancholy notes, like the syllables *phee-bee*, not drawled like the song of the wood Pewee, and sweeter and more even than the cry of the Phœbe.

The Chickadee is found in summer in dry, shady and secluded woods, but when the weather becomes cold, and as early as October, roving families, pressed by necessity and failure of their ordinary insect fare, now being to frequent orchards and gardens, appearing extremely familiar, hungry, indigent, but industrious, prying with restless anxiety into every cranny of the bark or holes in decayed trees after dormant insects, spiders and larvæ. The Chickadee adds by its presence, indomitable action and chatter, an air of cheerfulness to the silent and dreary winters of the coldest parts of North America.

The Chickadee is very generally distributed throughout the northern part of eastern North America. Its nest is built as far south as Illinois and Pennsylvania, and as far north as Labrador. High up in the Alleghany Mountains it nests still farther south. In the South and West occur closely related forms with similar habits.

Yellow-Throated Toucan (*Ramphastos erythrocynchus* *Rhamphostidae*)

By Gerard Alan Abbott

Length: 18 inches.

The Yellow-throated Toucan, a large billed bird found in tropical America, bears some resemblance to the hornbill of Asia and Africa. The most striking feature of this handsome bird is the monstrous bill, and the bird's chief mission seems to be to care for it, as it frees its beak from every stain and carefully tucks it away among its feathers or rests it on its back while sleeping. The bill seems entirely out of proportion to the size of the bird, but it is of a light honeycombed structure and is not so heavy as it appears. It has been suggested that the bill masticates the food since the bird has no gizzard. The awkward hopping gait is in striking contrast to the easy graceful flight. It feeds on fruits principally, but eggs, fish, and even small birds may enter into the diet. While feeding a sentinel is stationed to give the cry "Toucano," from which the name is derived. Toucans live in flocks in forests, nesting in hollow trees. These birds are killed not only because of their beautiful plumage but also as food.

"Old Head Hunter"

By Bert G. Hochwalt

It was a brilliant, starry night, in early autumn. A full moon rode high in the vaulted heavens and shed its rich, mellow rays over fields and forests, where, filtering through the leaves of the dark and silent trees it cast fantastic splotches of white light upon the woodland paths. The chirp of crickets and the monotonous drone of numerous other nocturnal insects still filled the air, while the occasional call of some night bird startled the intruder with its weird and mysterious sounds.

During a lull in the insect serenade there came floating slowly upon the crisp night wind the hoarse, discordant hoot of a great horned owl from somewhere in the distance. Scarcely audible at first, it rose in sound and volume until all the furry nightfolk of the forest scampered in terror to places of safety, and well they might, for they knew the prowess and hunting ability of "Old Head Hunter," as the folks in the neighboring village called this wraith-like bird, because of the numerous depredations he committed in their poultry yards and dove cotes; taking only the heads of his victims, as the brains were the tid-bits he delighted in. Again "Old Head Hunter" was preparing to exact his nightly toll from among the smaller denizens of the forest.

In almost uncanny silence, on swift hawk-like wings he came sailing through the woodland and alighted on the dead branch of a towering oak, from where he made his sallies upon his unfortunate victims. A deep-toned "to-whoo-hoo-



YELLOW-THROATED TOUCAN,
 $\frac{1}{2}$ Life-size

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hoo, to-whoo-hoo"! that sounded like a muffled roll of thunder startled the furry folk, and again sent them scampering to places of safety. But one poor unfortunate little mouse, probably a bit bolder than the rest, ventured too far from its place of safety, and before it had time to escape, the sharp claws of "Old Head Hunter" had sunk into its back; with a squeak of terror the mouse was borne in triumph to the dead oak limb, where the great horned owl, for such "Old Head Hunter" was, began to devour his victim. With his powerful beak he ripped the head from the body, which he cast to the ground. Another rip and he laid bare the brains, which he gulped down with evident relish.

"Old Head Hunter," unlike the rest of his tribe, was not content with devoring his victim's, but only delighted in eating their brains, so that he always kept up a relentless attack upon quail, grouse, snipe, rats, squirrels, mice, chickens, turkeys, in short about everything he could kill. His nightly toll was between ten and twenty victims, and the neighboring villages, unwilling to tamely submit to his maraudings upon their poultry coops, offered rewards for his body. But "Old Head Hunter" was too wary for all them and invariably eluded their most cunning schemes to capture or to kill him.

In another part of the forest all was serene and calm. A break among the stately trees permitted a flood of rich yellow light to silver the ground. In this spot a mother rabbit was giving her half-grown children their evening exercise. Running about, gamboling over the rich carpet of fallen leaves, the young cotton-tails, probably soon to be food for the hunters' guns, were having, oblivious to all impending danger, a delightful time. Suddenly a great ominous shadow poised over them. The mother rabbit squeaked her call of alarm, but too late! A short scuffle, a clapping of huge wings and one of her little family fell victim to the ravenous maw of "Old Head Hunter," who sailed silently back to his perch to devour his latest prize. Where only a few minutes before peace and freedom dwelt, now a poor mother was mourning the loss of one of her young, powerless to avenge its untimely death. The brains of the young rabbit only served to whet "Old Head Hunter's" appetite, and with another long and weird hoot he was off in search of another victim, which this time happened to be a large rat that momentarily exposed himself as he ran across a moonlit space near a farm yard. In a few seconds the rodent was beheaded and the brains devoured. A pigeon straggler in a dove cote near the scene of the last tragedy was the next to fall a prey to the rapacious bird of the night. "Old Head Hunter" was fairly gloating in blood. The terror of the woods was in his glory.

Having feasted on pigeon brain, "Old Head Hunter," not wishing to take any more chances in such close proximity to a human habitation, sailed back toward the woods in search of another variety of brain special. He had not long to wait.

In a marshy bog that bordered his domain, a small flock of ducks had paused for rest and food on their long migration southward. His sharp ears caught their squawks of contentedness as they settled for the night; his piercing

eyes discerned them among the reeds and swooping with a rush he descended upon the flock and his sharp claws tore into the soft back of a mallard duck. With a squawk of terror the unfortunate bird was borne to "Old Head Hunter's" perch, where he speedily went the way of his predecessors.

Just as "rosy-fingered dawn" was tinting the eastern sky the Great Horned Owl disposed of his last victim, a song sparrow that had stirred out a little too early. As the darkness of the forest began rapidly giving way to the grey twilight of the early morning, he slowly and silently sailed away to his home, somewhere in the depths of the tamarack swamp, where he still lives unmolested and unavenged, for he has builded wisely, as the approach to his castle, owing to the tangled undergrowth and insecure footing, is almost impossible for human pursuers.

Ruby-Crowned Kinglet (*Regulus Calendula*)

By W. Leon Dawson

Range.—North America at large, south to Guatemala, north to the Arctic Coast, breeding chiefly north of the United States and in the higher ranges of the West.

"Where's your kingdom, little king?
Where's the land you call your own?
Where's your palace and your throne?
Fluttering lightly on the wing
Through the blossom world of May,
Whither lies your royal way?
Where's the realm that owns your sway,
Little King?"

Dr. Henry Van Dyke is the questioner, and the little bird has a ready answer for him. It is "Labrador" in May, and

"Where the cypress' vivid green
And the dark magnolia's sheen
Weave a shelter round my home"

in October. But under the incitement of the poet's playful banter the Kinglet enlarges his claim:

"Never king by right divine
Ruled a richer realm than mine!
What are lands and golden crowns,
Armies, fortresses and towns,
Jewels, scepters, robes and rings,
What are these to song and wings?
Everywhere that I can fly
There I own the earth and sky;
Everywhere that I can sing
There I'm happy as a king."

And surely there is no one who can meet this dainty monarch in one of his happy moods without paying instant homage. His imperium is that of the spirit, and those who boast a soul above the clod must swear fealty to this most delicate expression of the creative Infinite, this thought of God made luminous and vocal, and own him king by right divine.

It was only yesterday I saw him, Easter day. The significant dawn was struggling with great masses of heaped-up clouds, the incredulities and fears of the world's night; but now and again the invincible sun found some tiny rift and poured a flood of tender gold upon a favored spot where stood some solitary tree or expectant sylvan company. Along the river bank all was still. There were no signs of spring save for the modest springing violet and the pious buckeye, shaking its late-prisoned fronds to the morning air, and tidily setting in order its manifold array of Easter candles. The oak trees were gray and hushed, and the swamp elms held their peace until the fortunes of the morning should be decided. Suddenly from down the river path there came a tiny burst of angel music, the peerless song of the Ruby-crown. Pure, ethereal, without hint of earthly dross or sadness, came those limpid, welling notes, the sweetest and the gladdest ever sung—at least by those who have not suffered. It was not, indeed, the greeting of earth to the risen Lord, but rather the annunciation of the glorious fact by heaven's own appointed herald.

The Ruby-crowned Kinglet has something of the nervousness and vivacity of the typical Wren. It moves restlessly from twig to twig, flirting its wings with a motion too quick for the eye to follow, and frequently uttering a titter of alarm, *chit-tit* or *chit-it-it*. During migrations the birds swarm through the tree-tops like Warblers, but are oftener found singly or in small companies in thickets or open clusters of saplings. In such situations they exhibit more or less curiosity, and if one keeps reasonably still he is almost sure to be inspected from a distance not exceeding four or five feet. It is here too that the males are found singing in spring. The bird often begins *sotto voce* with two or three high squeaks, as though trying to get the pitch down to the range of mortal ears before he gives his full voice. The core of the song is something like "*tew, tew, tew, tew, sweet to eat, sweet-oo eat*," the last phrases being given with a rising inflection, and with an accent of ravishing sweetness. The tones are so pure that they may readily be whistled by the human listener, and a musical contest provoked in which one is glad to come out second best.

I once saw a Kinglet in a royal mood. A young Ruby-crown was carolling, and quite prettily, in the lower branches of an old oak tree hard by. I was watching him closely to see if I might catch a glint of red, when up darted an old rival and flashed a jewel so dazzling as to fairly smite the eye. The youngling felt the rebuke keenly, and retired in great confusion. It seems that when the bird is angry it has the power of erecting its crest and so unveiling the full glory of the ruby crown.

The Canada Grouse (*Branta Canadensis*)

By Seth Mindwell

Length: 15 inches.

The Canada Grouse, also called the Spruce Partridge, frequents the evergreen forests and swamps and the shrubby areas of British America east of the Rocky Mountains, and in Alaska it is a resident of the Pacific coast. In its southern flights it seldom passes beyond the latitude of the northern portion of New England and Minnesota.

This bird is an interesting member of the bird family Tetraonidae, which also includes the birds variously called bob-white, quail and partridge, the ptarmigans and the prairie hen. The family includes about two hundred species, about one-half of which belong to the Old World. There are twenty-five distinct species of the subfamily of grouse. These are practically confined to the higher latitudes of the northern hemisphere and are strictly speaking non-migratory. In fact, nearly all the birds of this family are resident throughout the year in the localities where they are found.

They are terrestrial in their habits, and when frightened they usually depend on hiding in places where their dull colors will least attract attention, but they will, occasionally, fly into trees when flushed.

The Canada Grouse, like all the related species, is a bird of rapid flight. The feathers of their small wings are stiff, causing a whirring sound during flight. The male during the mating season gives a great deal of attention to his appearance. He is quite black in general color and more or less barred with white underneath and above with gray or reddish brown. The female is not quite as large as the male, and is not as dark in color. Above the eye of the male there is a small area of bare skin, which is a bright vermillion color.

These gentle and retiring birds mate in the early spring and remain together through the breeding season. Captain Bendire states that he has good reason for believing that the mating may last for more than one season, as he has frequently found a pair, in the depth of the winter, when no other individuals of the same species were near. The nest, consisting of loosely arranged blades of grass and a few stalks and twigs, is built by the hen on a slight elevation of ground, usually under the low branches of a spruce tree.

The number of eggs varies greatly. Mr. Ridgway says that they vary in number from nine to sixteen. The eggs also vary greatly in color from a pale, creamy buff through various shades of brownish buff, and are irregularly spotted with a deeper brown, though occasionally they are spotless.

During the spring and summer months the food of the Canada Grouse consists very largely of the berries of plants belonging to the Heath family, such as the blueberry, the huckleberry and the bearberry, as well as the tender buds of the spruce. In the winter it feeds almost entirely on these buds, and the needle-like



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CANADA GROUSE.
(*Dendragapus canadensis.*)

leaves of the spruce, the fir or the tamarack tree. At times they seem to show a preference for certain trees, and will nearly strip the foliage from them.

As a food for man their flesh is far from satisfactory. It is dark-colored and strongly flavored with the odor of their natural food. However, certain Indian tribes are said to relish them and hunt them extensively.

Mr. Bishop, in "Forest and Stream," relates the following very interesting account of the strutting of the male Canada Grouse when in captivity. He says, "I will describe as nearly as I can his conduct and attitude while strutting: The tail stands almost erect, the wings are slightly raised from the body and a little drooped, the head is still well up, and the feathers of breast and throat are raised and standing out in regular rows, which press the feathers of the nape and hind neck well back, forming a smooth kind of cape on the back of the neck. This smooth cape contrasts beautifully with the ruffled black and white feathers of the throat and forebreast. The red comb over each eye is enlarged until the two nearly meet over the top of the head. This comb the bird is able to enlarge or reduce at will, and while he is strutting the expanded tail is moved from side to side. The two center feathers do not move, but each side expands and contracts alternately with each step the bird walks. The movement of the tail produces a peculiar rustling, like that of silk. This attitude gives him a very dignified and even conceited air. He tries to attract attention in every possible way, by flying from the ground up on a perch, and back to the ground, making all the noise he can in so doing. Then he will thump some hard substance with his bill. I have had him fly up on my shoulder and thump my collar. At this season he is very bold, and will scarcely keep enough out of the way to avoid being stepped on. He will sometimes sit with his breast almost touching the earth, his feathers erect as in strutting, and making peculiar nodding and circular motions of the head from side to side; he will remain in this position two or three minutes at a time. He is a most beautiful bird, and shows by his actions that he is perfectly aware of the fact."

There seems to be a diversity of opinion regarding the method followed by this grouse to produce the drumming sound. Mr. Everett Smith, as quoted by Captain Bendire, 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 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 repeats the maneuver." According to this and other authorities a tree, usually spruce, having a diameter of about six inches and inclining at an angle of about fifteen degrees, is selected. Frequently these trees are used so extensively and for so long a time that the bark on the upper side will be much worn. Other authorities, and among them Indians, who live in the regions frequented by this grouse, claim that the drumming is produced while flying from the branches of a tree to the ground, repeating the operation several times in succession. Another authority describes

the drumming of the male as follows: "After strutting back and forth for a few minutes, the male flew straight up, as high as the surrounding trees, about fourteen feet; here he remained stationary an instant, and while on suspended wing did the drumming with the wings, resembling distant thunder, meanwhile dropping down slowly to the spot from where he started, to repeat the same thing over and over again."

The Canada Grouse is easily domesticated and would make an interesting and amiable bird pet, because of their peculiar habits.

The Brown Thrush or Thrasher the King of Singers

By W. H. Pomeroy, Stamford

As I was sitting on a stump by the beautiful Rippowam, one Sunday afternoon early in May, listening to the purling of the waters as they hurried toward Long Island Sound, suddenly to my ears came an exquisite melody filled with joyous gladness, gurgling, trilling, warbling, lilting, rollicking along in an abandoned fashion. Recognizing the singer by his song, I made my way through the brush and soon reached an opening, across which, perched on the tip of a forty foot tree, and in the midst of his joyous fanfare of melody, sat a beautiful specimen of North America's famous song bird, the brown thrush or "thrasher."

South of Mason and Dixon's line you will be told that the mocking bird is the world's most famous singer. I have listened to him in his gilded cage and in his native wilds, and I note this difference between him and his northern cousin. When one has listened to the mocking bird for ten or fifteen minutes, one has heard about all of his repertoire. Listen to the brown thrush for half an hour today, and again tomorrow, and again the day after, and you will have only just begun to appreciate his marvelous versatility as an imitator of other birds, to say nothing of his own variations which he adds *ad libitum*, never seeming to tire.

In the order of the excellence of their singing, the brown thrush should be accorded first place, while his modest little cousin, the catbird, easily takes second place, and the mocking bird stands third on the list. All three are "mockers" and seem to be distant cousins. They have many characteristics in general. The brown thrush however has one trait that differentiates him from the other two, a characteristic which concerns his domestic relations and is not generally known even by bird lovers. In fact I have seen no reference to it in the different books that I have consulted on the subject.

For several seasons I was puzzled by the name "thrasher" given to him by country people. Numerous inquiries elicited nothing by way of explanation, except that one bewhiskered old fellow said, "They thrash the ground, and that

is why we call them thrashers." This sounded "fishy" to me, and was not satisfying. I resolved to observe personally and carefully. The result of my observations may be of interest to your readers.

When making love to his lady fair he selects a level bit of ground closely screened by overhanging bushes. From this he removes all leaves and grass and rubbish sweeping the place clean. If conditions are favorable he will sometimes prepare two or three of these thrashing places adjacent to one another. Hither he calls his sweetheart, and on her arrival he begins a grotesque dance, hopping and cavorting in a fantastic manner, and, jumping up a foot or two, he strikes the earth with cupped wings, making a sound out of all proportion to his size. This may be distinctly heard at a distance of from two hundred to three hundred feet.

There is doubtless some analogy between this performance, the strutting of the turkey gobbler and the drumming of the male grouse. It seems to be an attempt to charm his lady fair. I do not know that a full-grown man could succeed in witnessing it, but I am sure that a small, barefoot boy could do so. But any one may hear his marvellous song.

It should be remembered, however, that the period during which the thrush sings is brief indeed, covering in New England scarcely more than two or three weeks in May. The catbird sings longer. He may be heard on almost any morning, welcoming the sunrise with his sweet and joyful music. Again in the late afternoon he delights in speeding the parting day with his glorious song. He often continues to sing through June and even into July.

He is a willing assistant to the maternal catbird, accompanying her on all her journeys in search for food for their hungry family, yet he is a happy-go-lucky sort of fellow; good cheer is his middle name. On his account the world is a brighter place to live in. Human husbands might well learn a lesson from him.

The paternal thrush takes life more seriously. From the time when the first brown splotched eggs are laid in the nest under the birch tree, he devotes himself to the mother thrush, and later on to the little thrushes, not even taking time to sing, and you will not have the privilege of again hearing his wonderful music until next year. This may be the reason why so few become acquainted with him and learn to know and love his wonderful song. He is also one of the first birds to migrate to the south, leaving us as soon as the young are strong enough to undertake the journey.

When waves of Summer heat roll o'er the land,
Is Nature robed in coolest, freshest green;
But when cold nights and frosts are near at hand, .
Her raiment is the brightest to be seen.

EMMA PEIRCE.

The Great Blue Heron

By John James Audubon

Few of our waders are more interesting than the birds of the Heron family. Their contours and movements are always graceful, if not elegant. Look on the one that stands near the margin of the pure stream! See his reflection dipping as it were into the smooth water, the bottom of which it might reach had it not to contend with the numerous boughs of these magnificent trees! How calm, how silent, how grand is the scene! The tread of the tall bird himself no one hears, so carefully does he place his foot on the moist ground, cautiously suspending it for a while at each step of his progress. Now his golden eye glances over the surrounding objects, in surveying which he takes advantage of the full stretch of his graceful neck. Satisfied that no danger is near he lays his head on his shoulder, allows the feathers of his breast to droop and patiently waits the approach of his funny prey. You might imagine what you see to be the statue of a bird, so motionless it is. But now he moves; he has taken a silent step and with great care he advances; slowly does he raise his head from his shoulders, and now what a sudden start! His formidable bill has transfixed a perch, which he beats to death on the ground. See with what difficulty he gulps it down his capacious throat, and then opens his broad wings and slowly flies to another station.

The Great Blue Heron is met with in every part of the Union. Although more abundant in the low lands of our Atlantic Coast it is not uncommon in the country west of the Alleghany Mountains. It have found it in every State in which I have traveled, as well as in all our territories. It is well known from Louisiana to Maine, but seldom occurs farther east than Prince Edward Island, in the Gulf of St. Lawrence, and not a Heron of any kind did I see or hear of in Newfoundland or Labrador. Westward I believe it reaches to the very base of the Rocky Mountains.

It is a hardy bird and bears the extremes of temperature surprisingly, being in its tribe what the Passenger Pigeon is in the family of Doves. It is not rare in the middle States, though more plentiful to the west and south of Pennsylvania.

Extremely suspicious and shy, this bird is ever on the lookout. Its sight is as acute as that of any Falcon, and it can hear at a considerable distance, so that it is enabled to mark with precision different objects it sees, and to judge with accuracy of the sounds which it hears. Unless under very favorable circumstances it is almost hopeless to attempt to approach it. I have seen many so wary that on seeing a man at the distance of half a mile they would take to wing, and the report of a gun forces one off his grounds from a distance at which you would think he could not be alarmed.

The Blue Heron feeds at all hours of the day, as well as in the dusk and dawn and even at night when the weather is clear, his appetite alone determining

his actions in this respect; but I am certain that when disturbed during dark nights it feels bewildered and alights as soon as possible. When passing from one part of the country to another at a distance the case is different, and on such occasions they fly at night high above the trees, continuing their movements in a regular manner.

The commencement of the nesting season of the Great Blue Heron varies according to the latitude, from the beginning of March to the middle of June. In Florida it takes place about the first of these periods, in the middle States about the 15th of May, and in Maine a month later.

It is at the approach of this period only that these birds associate in pairs, they being generally quite solitary at all other times. Except during the nesting season each individual seems to secure for itself a certain district as a feeding ground, giving chase to every intruder of its own species. At such times they also repose singly, for the most part roosting on trees, although sometimes taking their station on the ground in the midst of a wide marsh, so that they may be secure from the approach of man. This unsocial temper probably arises from the desire of securing a certain abundance of food, of which each bird requires a large quantity.

The nest of the Blue Heron is large and flat, externally composed of dry sticks and matted with weeds and mosses to a considerable thickness. When the trees are large and convenient you may see several nests on the same tree. Three eggs are laid in the nest. They are very small compared with the size of the bird, measuring only two and a half by one and a half inches. They are of a dull bluish white color, without spots, and of a regular oval form.

The male and female sit alternately, receiving food from each other, their mutual affection being as great as it is toward their young, which are provided for so abundantly that it is not uncommon to find the nest containing a surplus of fish and other food.

As the young grow older they are less frequently fed, although still as copiously supplied whenever opportunity offers. But now and then I have observed them, when the nests were low, calling for food in vain. The quantity which they now require is so great that all the exertions of the old birds appear at times to be insufficient to satisfy their voracious appetites. They do not provide for themselves until fully able to fly, when their parents chase them off and force them to shift as they can.

This species takes three years in attaining maturity, and even after that period it still increases in size and weight. When just hatched the young birds have a very uncouth appearance, the legs and neck being very long as well as the bill. By the end of a week the head and neck are sparingly covered with long tufts of silky down, of a dark gray color, and the body shows young feathers, the quills large with soft blue sheaths. At the end of four weeks the body and wings are well covered with feathers of a dark slate color, broadly margined with brownish-red; the bill has grown wonderfully, the legs are quite

strong and the birds are able to stand erect on the nest or on the objects near it.

They are now seldom fed oftener than once a day, as if their parents were intent on teaching them that abstinence without which it would often be difficult for them to subsist in after life. At the age of six or seven weeks they fly off, and at once go in search of food, each by itself. These birds feed on fish, frogs, lizards, snakes, shrews, meadow mice and other animals.

The Great Blue Heron occurs throughout North America south of the Arctic regions. It extends through the West Indies and the northern part of South America. It winters from the middle States southward.

The Habits of the Wilson's Phalarope

(*Phalaropus tricolor*)

By F. M. Woodruff

The family Phalaropodidae has a very restricted membership, comprising only three species, two of which are found principally along the sea coasts of the Northern Hemisphere. Wilson's Phalarope, unlike its relatives, is distinctly an American bird. Its range is chiefly inland, extending from the Mississippi Valley and Great Lake Region westward and north into the British provinces.

Few persons aside from those who are closely in touch with Nature can claim even a passing acquaintance with this beautiful creature, the Phalarope. Its soft, delicate plumage consists of various shades of chestnut, black, gray and white, giving an elegant and symmetrical appearance to the bird, which is equaled only by its graceful and gentle demeanor. Fortunate is he who can survive an attack from mosquitoes and venture among the mossy bogs and quagmires to study the Phalaropes in their nature haunts. After such a visit one can scarcely refrain from admiring their unsuspicious and peaceful conduct. Well do I remember my initial experience with this little shore bird. It is only one of the many anecdotes which are jotted down in the note book of the field ornithologist, but it formed a vivid impression upon my mind. In company with a friend I was traversing a prairie marsh, near Chicago, where bobolinks and meadow larks abounded. Our destination was a dense copse, resorted to annually by warblers and flycatchers during the breeding season. We were admiring the aerial performance of a marsh hawk, when we were greeted on either side by a male Phalarope and a pair of Bartram's sandpipers.

Both species were entirely new to us in the wild state, and so complete was this surprise that we were unable to account for their sudden and unexpected appearance. The sandpipers hovered about on quivering wings, continually uttering their long-drawn-out plaintive yet melodious whistle.

The Phalarope displayed no less an amount of uneasiness as he darted back and forth in an undulating manner. His voice was a feeble "onk, onk," and lacked the distinctness of the Bartram's clear whistle, which was audible at the



NEST OF WILSON'S PHALAROPE.

(*Phalaropus tricolor*).

About life-size.

distance of half a mile. It was about the middle of June, rather a late date for finding eggs of either Phalarope or sandpiper, and after an extensive search we abandoned the place, baffled in our attempts to discover either nest or young.

Several years later, while in North Dakota, I formed a more extensive acquaintance with Wilson's Phalarope, and had the pleasure of meeting not only the male, but his better half. Contrary to the laws of Nature in general regarding other families of the feathered congregation, the Phalaropes possess peculiar characteristics decidedly their own. The female is superior in size and more brilliantly colored than her mate. She also shirks the domestic tasks so far as her sex permits, and the household responsibilities are assumed by the male. Mrs. Phalarope does the courting, displaying her plumage to the best advantage before the shy and indifferent male, who flies from pond to pond. She follows persistently and endeavors by a series of bows and gesticulations to win his favor. The male hollows out a small place in a mossy bog or damp meadow, sufficient to hold four eggs, which are ashy yellow in color and densely marked and streaked with rich brown and black. The eggs average one and twenty-eight-hundredths inches in length by ninety-four-hundredths of an inch in width, and are usually very pointed. Some nests are scantily lined with grass blades or stems, but, judging from their usual appearance and the exposed situation in which the eggs are often found, I doubt if the male exerts himself when constructing their domicile. Nevertheless he sits patiently upon the eggs until three weeks have elapsed, when the young leave the shell to follow their father about in search of food.

The little fellows are chestnut-brown, streaked with a darker shade.

In the meantime the females have congregated in small groups and may be seen running about the water margin or swimming buoyantly upon the tranquil surface of pond or lagoon. These birds excel other waders in swimming, because their toes are scalloped, or semipalmated, and well adapted for such purposes.

Twenty years ago Illinois was a favorite summer home for the Wilson Phalarope, but they are becoming scarce, and from what I can learn, the bird is now regarded as a rare breeder east of the Mississippi River, except perhaps in Wisconsin, where they still gather during June to rear their young around the borders of isolated lakes.

Marsh Hawk (*Circus Hudsonius*)

The ashy upper parts, white rump and long tail of the adult male sufficiently distinguish this hawk; while the fuscous upper parts and buff under parts much streaked with brown distinguish the female and young.

Range: Breeds through much of Canada, south to the middle United States; winters in the United States, especially in the south.

Though not exclusively a marsh frequenter, as its name might seem to imply, this hawk prefers open country, and its favorite hunting grounds are meadow and marsh, in which it nests on the ground. It flies rather low, the better to see and drop suddenly upon the luckless meadow mice—its favorite food. Unfortunately small birds form part of its fare, and there are localities, like Cape Cod and Martha's Vineyard, in Massachusetts, where this hawk has earned a bad reputation as a destroyer of poultry and game. However, over much the larger part of the vast territory it inhabits, the marsh hawk is a rodent eater, and the debt of gratitude it lays upon the farmer is large. This debt should be fully discharged by preserving the bird and encouraging its presence unless it is caught committing overt acts. In other words, as this hawk is very beneficial over most of its range, individual hawks should be presumed to be innocent unless detected in transgression.

The Abandoned Nest

By Melicent Humason Lee

Slight structure, woven to a birchen bough,
What memories hast thou
When winter breezes blow, and fury snow
Clings to the sedges of thy withered brow?
Dost thou remember how, in spring, a bride
Brought bits of bark and tucked them in thy side,
And quilt from hornet's nest, and lacy foam
From spider's web to decorate her home?

What tenderness, what ecstasy, what zest
Inspired her young breast
To tear from cloistered couch the cat-tail seeds,
And meet the warmth a little birdling needs!
How many feeble chirps have filled thy cave?
How many beaks have begged the food she gave?
Now, but a blast explores thy cradle crude,
Where once a mother reared her little brood.

Pectoral Sandpiper (*Pisobia maculata*)

Range: Breeds on the Arctic coast from northern Alaska to mouth of Yukon and northeastern Mackenzie; winters in South America from Peru and Bolivia to northern Chile, Argentina, and central Patagonia.

The "grass bird," or "kricker," does not share the predilection of many of its relatives for the sea beach, but prefers mud flats and marshes. In late fall the grass on the salt water marshes is high enough to hide the kricker, and yet not offer resistance to its progress, and it is surprising how difficult it is to see one as it stands motionless watching the enemy with unalarmed eyes. This sandpiper arrives on the Bering Sea coast to breed in May, and Nelson's account of its song will surprise those who know the species only when migrating. Speaking of a night passed in the Yukon delta, he says: "As my eyelids began to droop and the scene to become indistinct, suddenly a low, hollow, booming note struck my ear. Again the sound arose nearer and more distinct, and with an effort I brought myself back to the reality of my position and, resting upon one elbow, listened. A few seconds passed and again arose the note; a moment later and, gun in hand, I stood outside the tent. The open flat extended away on all sides, with apparently not a living creature near. Once again the note was repeated close by, and a glance revealed its author. Standing in the thin grasses ten or fifteen yards from me, with its throat inflated until it was as large as the rest of the bird, was a male *A. maculata*. The note is deep, hollow, and resonant, but at the same time liquid and musical, and may be represented by a repetition of the syllables too-u, too-u, too-u, too-u, too-u, too-u, too-u."

White-Winged Scoter (*Oidemia deglandi*)

Range: Breeds from the coast of northeastern Siberia, northern Alaska, northern Mackenzie, and northern Ungava south to central British Columbia, Alberta, northern North Dakota, and southern Quebec; winters on the Asiatic coast to Bering Island, Japan, and China, and in North America from Unalaska Island to San Quintin Bay, Lower California, the Great Lakes, and the Atlantic coast from the Gulf of St. Lawrence south (rarely) to Florida; non-breeding birds occur in summer as far south as Rhode Island and Monterey, California.

The general habits of this scoter correspond closely with those of its relatives. It winters in great numbers in company with other coots on the coasts of the New England and Middle States, and also along our west coast, especially in Oregon and Washington. Scoters are denizens of the sea and are almost as much at home there as the fish, crustaceans, and shell fish upon which they feed. So large are some of the shell fish that have been found in their stomachs that it is difficult to understand how the birds manage to swallow them.

Bird Notes

By Clara Kern Bayliss

When the cradles are deserted and the young no longer need care,—what? From the middle to the last of July the nests are rapidly closing out and a strange silence falls upon birddom. For a time there is some chirping of the young who still beg for food though they are as large as their parents; but the great jubilee of the springtime is hushed and the birds which were so omnipresent seem to have vanished.

In the hot days of August almost the only bird notes heard are the *Wichity, wichity, wichity, wich* of the Maryland Yellow-throat, the *Wheche-chechee* of the never-tiring Wren, and the noisy *Thief! Thief!* of the Jay which strikes on our ears more disagreeably now that there are no other sounds to engulf it. At the noontide there is the strident rasp of the Cicadae; but never a morning now are we awakened by the inspiring call of the Meadowlark or the clear, ringing medley of the Brown Thrasher which in the early days of spring made us glad to be alive.

As the silence deepens we begin to hear the *Whee-hee* of the Titmouse and the lively *See me* and *Per-chick-o-py* of the "Wild Canary" or Goldfinch. Perhaps these calls have been with us all along, unheard in the general chorus, as the flight-song of a single bee claims our attention in winter while that of a whole hive passes unnoticed in summer.

But although so quiet, the birds have not yet gone. They have hidden away to change their clothing. Some day you may see a Brown Thrasher drop out of a tree and steal in and out along the rose hedge searching for food and trying to keep out of sight. (Are birds really vain of their looks?) No wonder that he doesn't want to be seen, for he is not the sleep creature of earlier days, but a forlorn, ragged tramp who would tell you very meekly that "he doesn't feel able to work." Or perhaps you find him among the brush of a sheltered hollow where the winds of heaven may not fan him too roughly in his semi-nudity. And he will not fly up, nor utter his saucy *Quirt*, nor do anything but hop weakly from twig to twig of the low tangle and make a faint, wheezy sound in his throat. And you say, "Can it be that this is the same creature which the farmers call the Planting Bird, because when they planted their corn he perched audaciously on the topmost bough and sang in imperative tones, *Drop it! Drop it! Pick it up! Pick it up! Come here! Come here! Cover it up! I'll pull it up!*"

All birds moult in the fall. Goldfinches and Tanagers moult the body feathers again in the spring. Bobolinks, Tanagers, Goldfinches, Bay-breasted, Redpoll, and Myrtle Warblers wear the dull colors of the female until the pre-nuptial moult. Orchard Orioles and Redstarts breed the first year without acquiring adult plumage, which does not come to some birds until the

third year. The change of color in those who do not moult in spring is due to the breaking off or wearing off of the feather ends where they are saw-toothed to the main feather; or to a real change of color by fading which begins at the outer edges and gradually extends in toward the quill.

Some morning in the early part of September you may see your Brown Thrasher in his new coat preening himself on a dead limb of a pear tree,—and dead limbs are convenient things to have for bird study. He takes a long time for his toilet, spending a half hour in getting the new feathers arranged to suit him; and when it is done he makes crazy flights into the air and back to see if he can fly as well as in the old suit.

A few days later if you go about cautiously, you may hear a low *Quirt*, *Quirt*, in the little cherry tree. It is not the defiant note of the summer when you ventured near his haunts, but a low sound as if he were speaking to himself. And presently you may hear a strange thing: a Thrasher's whole song, note for note, whispered *sotto voce*, with bill closed, as if he didn't want any one, not even his nearest and dearest,—to hear him. He is trying to find out if his voice as well as his plumage has come back to him. It makes you feel queer to witness this private rehearsal. When you spied upon his young in the nest you never felt so much like a conscienceless intruder; and yet you are glad to the marrow to have heard and seen it.

And that is about the last you will see of him until he returns to you in the spring. But where will he and the other birds spend the winter? And what will become of the Bronze Grackle with the leg broken and standing at right angles to his body? He can fly and can perch; but will he be able to keep up in that tiresome journey of the multitudes?

Many of the birds slip away unnoticed; but everyone observes the migration of the Canadian Geese because they fly low and keep up a loud honking, and because the sharply defined form of the flock impresses itself on your mind. The farmer says they shape themselves into a "drag" as they follow the patriarch of the flock; and their lines are as straight as those of soldiers on parade. Once only, have we known them to break ranks in disorder, and that was one night when they were terrified and confused by an oncoming storm which flashed blinding lightnings in their path whichever way they wheeled.

In our childhood another migration forced itself upon the attention of all. Every autumn the skies were darkened and the newly sown wheat fields were covered by immense flocks of wild Pigeons; but that spectacle is a thing of the past and no one seems to know what has become of the Pigeons.

Surf Scoter (*Oidemia perspicillata*)

Range: Breeds on the Pacific coast from Kotzebue Sound to Sitka, and from northwestern Mackenzie and Hudson Strait to Great Slave Lake, central Keewatin, and northern Quebec; winters on the Pacific coast from Aleutian Islands south to San Quintin Bay, Lower California, and on the Great Lakes.

The surf duck is possibly the most abundant of the three species of scoter ducks, and in fall and winter it visits the northern parts of the United States on both coasts in great numbers. It appears off the coast of Massachusetts early in September. Some idea of the vast numbers of these birds may be gained from the observations of Nelson who, late in the breeding season of 1878, saw near Stewart Island, Alaska, a continuous raft of them about ten miles long and from a half to three-fourths of a mile in width. All these appeared to be males and therefore represented only half of the birds of this species breeding in the locality. The surf scoter is a powerful swimmer and a superb diver and is almost as much at home in the surf as a fish. It lives on various kinds of shellfish, chiefly mussels. Naturally, having no means of breaking open the bivalves, it has to swallow them whole, and such are the bird's powers of digestion that it has no difficulty in disposing of the thick shells.

Sanderling (*Calidris leucophaca*)

Range: Breeds from Melville Island, Ellesmere Land, and northern Greenland to Point Barrow, Alaska, northern Mackenzie, Iceland, and in northern Siberia; winters from central California, Texas, Virginia, and Bermuda to Patagonia.

The sanderling breeds on the far-away Arctic coast, and in early fall begins its wanderings southward. These take it much over the known world. Even the Hawaiian Islands, in mid-ocean, more than 2,000 miles distant from the bird's nearest breeding grounds, are not too remote to attract it, though it is never numerous there. The sanderling is well named "beach bird," for sandy beaches are its favorite places of resort. No prettier sight can be imagined than a flock of these little white birds when busily engaged hunting for food. As the foam-topped breakers rush up the beach, and retreat to gather force for another dash, they plough up the sand, and expose for a few brief seconds multitudes of sand fleas and minute shell fish. These are the chosen food of the sanderlings, and to gather their harvest they keep pace with the progress of the waves, now advancing, now retreating, ever ready to snatch any hapless creature less nimble than they. Sanderlings fly in small companies, and often a few individuals mingle with flocks of larger species. Though naturally so tame and unsuspecting as hardly to recognize the presence of man, they associate in such small numbers that they are not greatly exposed.

The White-Eyed Vireo

By John James Audubon

This interesting little bird enters the State of Louisiana often as early as the first of March. Indeed, some individuals may now and then be seen a week or ten days sooner provided the weather be mild. It throws itself into the thickest part of the briars, sumachs and small evergreen bushes, which form detached groves in abandoned fields, where its presence is at once known by the smartness of its song. This song is composed of many different notes emitted with great spirit and a certain degree of pomposity, which makes it differ materially from that of all other Vireos. It is frequently repeated during the day.

These birds become at once so abundant that it would be more difficult not to meet one than to observe a dozen or more during a morning walk. Their motions are as animated as their music. They pass from twig to twig, upward or downward, examining every opening bud and leaf, and securing an adult insect or a larva at every leap. Their flight is short, light and easy.

Their migrations are performed during the day, and by passing from one low bush to another. Like all our other visitors they move eastward as the season opens, and do not reach the middle States before the end of April or the beginning of May. Notwithstanding this apparently slow progress, they reach and disperse over a vast expanse of country. I have met with some in every part of the United States which I have visited.

Many remain in Louisiana, where they rear two broods, perhaps sometimes three, in a season. Of this, however, I am not quite certain. I never saw them alight on the ground, unless for the purpose of drinking or of procuring fibrous roots for their nests. They are fond of sipping the dewdrops that hang at the extremities of leaves. Their sorties after insects seldom extend beyond the bushes.

About the first of April the White-eyed Vireo forms a nest of dry slender twigs, broken pieces of grasses and portions of old hornets' nests, which have so great a resemblance to paper that the nest appears as if studded with bits of that substance. It is lined with fine fibrous roots and the dried filaments of the Spanish moss. The nest is cup-shaped and pensile, and is fastened to two or three twigs, or to a loop of a vine. The eggs are from four to five, of a pure white, with a few dark spots near the larger end. In those districts where the Cowbird is found it frequently drops one of its eggs among them.

I have seen the first brood from the nest about the middle of May. Unless disturbed while upon its nest, this bird is extremely sociable, and may be approached within a few feet, but when startled from the nest it displays the anxiety common to all birds on such occasions. The difference of color in the sexes is scarcely perceptible.

The White-eyed Vireo is found through a large part of the United States,

ranging from the Rocky Mountains to the Atlantic Ocean in one direction and from southern New England and Minnesota to the Gulf of Mexico in the other. In winter it extends beyond our southern borders into Guatemala and Honduras.

The Tufted Titmouse (*Baeolophus bicolor*)

By W. W. Woollen

The subfamily Parinæ, of which the tufted titmouse is a member, contains about seventy-five species. Of these thirteen belong to North America. The range of the tufted titmouse extends throughout the eastern United States, north to the Connecticut valley and southern Michigan and west to central Nebraska and Texas. Comparatively few of them are found in New England, and this perhaps accounts for the fact that not much has been written about them in the east. In some of the books no mention is made of them. They are irregular migrants. Most of them remain throughout the year when they have taken up their abode. They mate in April and May and breed until midsummer. They nest in woodpecker and knot holes and other cavities, generally five to thirty feet from the ground.

Some of the names of the tufted titmouse are crested titmouse, crested tom-tit, Peter-peter, and sugar bird. The adult male and female are alike in size, contour, color and appearance. Both have conspicuous crests and a bill which is black; tongue very short, truncate and ending with three or four sharp points; eye dark hazel; lores white; gray above, whitish below with sides of reddish brown; wing feathers relieved with dusky on their inner vanes; tail a little forked, considerably concave below, and of the same color as the back.

Their food consists entirely of insects, their eggs and larvae, and for this reason they are of our most useful birds. At Somerleaze they have shown themselves to be very busy workers in our orchard and I have been much interested in watching them going over our elms for insects and worms on the leaves. In doing this they catch a limb with their feet and swing with their heads downward, so as to be able to inspect the under side of the leaves. One Sunday afternoon in 1900 a pair of them brought their young ones to the trees on our front lawn and this gave me an excellent opportunity to observe them from the veranda with a glass. The young ones seemed larger than their parents, and such voracious appetites as they did have! The parents worked faithfully all that afternoon, and did nothing but feed their hungry progeny. One of the trees was the very large wild cherry and in it was a nest of tent caterpillars. The titmice discovered it, attacked it, and destroyed every caterpillar in it. It was interesting to watch them do it. They would fly to the nest, catch a caterpillar and fly with it to a limb close by, masticate it, and then fly to one of their young and give the caterpillar to it. During that afternoon I think they went over every tree on the



TUFTED TITMOUSE.

(*Parus bicolor*).

About Life-size.

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lawn, and there were many of them, hunting for insects and worms for their young ones.

Mr. Baskett, in "The Story of the Birds," says that "In the old days when smokehouses of the rural regions were of logs unchinked, these little fellows dug into the hams and middlings, and the crested tit is especially known as the 'meat eater' among some of the southern folk." In the country, at my father's log cabin home, was one of those unchinked log smokehouses, and how well do I remember when the cold winter days came how the titmice would visit it. And this is suggestive. Now that the old smokehouses have disappeared, why not put out some scraps of meat for the birds in winter, when the insects and worms are scarce and hard to find?

One who has not been reared in the country and has not enjoyed the many pleasures of sugar making, is without some of the things which help to make the after memories of life most delightful. It is in sugar making time that everything is opening into new life. Spring is getting ready to put on the green that makes May and June the most delightful months of the year. As to this conclusion, some may differ with me, giving the preference to September and October. To me the one speaks of fresh life and budding youth; the other of old age, decay and death. It is in spring, in the language of the Psalmist, that we have "showers that water the earth." And who has not enjoyed these showers? It is at this time that the drops of water falling into the pools and rivulets make air globules like halves of soap bubbles, and our shadows are reflected mirror-like in the water. It is at this time of the year that the drying leaves rustle as we walk through them gathering the sugar water. And how delightful the memory of the neighborhood parties at night about the furnace of the sugar camp from which the stirring off was being made for the wax pulling that was to follow. It is in sugar making time that we as children go hunting for that delicious bulbous edible, the turkey pea or pepper and salt. Among the plants it is the pretty little harbinger of spring. It is in sugar making time that the tufted titmouse is in full song. It is then, as Mr. Baskett tells us, that his song "is that sugary sap-rising call to 'Peter-peter-peter' to get out his spiles and water troughs." It is then that their clear, loud whistle of "peto-peto-peto" may be heard at Buzzard's Roost, for we have many of them there.

These delightful birds are very inquisitive and sociable. They rather enjoy the company of man. At Somerleaze an elm tree stands so close to the house that the limbs almost overhang the back porch. Here I have frequently sat in the afternoon and whistled to the titmice to come. They would be over in our orchard, and hearing my whistle, would come in answer to it, getting as near to me as the closest limbs would permit, and look inquiringly at me, as much as to say, "Here we are, what do you want with us?" And then I wished that I could tell them that I wanted their companionship. I sometimes feel that it is a hardship that all animal life cannot communicate with each other. Would there not be less wrong inflicted then? Would a man kill a bird if it could say, "Sir, will you not spare my life? Have I done you any wrong? Have I not been your friend?"

The Dove Not a Peace Bird

Doves, according to popular tradition, are the last things in the world to connect with war. Doves and pigeons are, or were, pacifists of the most virulent type. Another cherished yarn has to go by the wall, for an authority says that "five minutes in a pigeon-cote . . . will result in a lifetime of wondering why the idealized bird was chosen as an emblem of peace, for this stout-hearted little bird, once called the "dove of peace," is now known and cherished as "the war-pigeon."

There "being nothing new under the sun," one is not surprised to find that the ancient Egyptians and Persians used pigeons, just as to-day, as messengers in war-time. Then from the Orient to Holland and Belgium and Merrie England came the birds, the ancestors of the pigeons that have played so important a part in driving the Huns to their lairs.

It brings the subject close home to us when we remember that in the Pigeon Division of the Signal Corps Louis Wahl and William Smead, of the New York "Zoo," are in charge and that Corp. Donald Carter, once in the Gardens, is in active service in France, among "the doves."

Mr. Lee S. Crandall, in *The Zoological Society Bulletin* (New York), has interesting things to say about the birds. After speaking of Smerles, "Owls," Dragoons, Horsemen, Skinnums, Cumulets, etc., he proceeds:

From this seeming chaos, after many vicissitudes, the racing homer, unequaled in speed, endurance, and intelligence, finally was evolved. These three characters have remained the great objectives of the breeder, and color markings, and other points commonly sought among domestic pigeons have been ignored. Many derivatives, bred for exhibition points only, have risen to popularity, but the racer, not always uniform in type and color, though never failing in courage and love of home, still remains the pigeon of pigeons.

Having proved its value as a flier in Belgium, the newly evolved breed was quickly imported into England, and later was brought to America. The sport of pigeon-racing soon became popularized, and its devotees now number thousands. In America hundreds of races are flown yearly, under the auspices of local clubs and the larger national organizations with which they are affiliated. With the overrunning of Belgium by the German hordes of pickers and stealers, the great majority of the famous studs of racing pigeons were seized and sent to Germany. However, the blood of these great strains is widely spread and strongly cherished in England and in America, so that they will not become lost to civilization.

Through a confusion of names, which has become wide-spread, the homing pigeon is almost invariably referred to in news reports as the "carrier." He is a carrier so far as service performed is concerned, but, unfortunately, that name was long ago preempted by an entirely different bird, closely related to the Dragoon and Horseman, and known as the English Carrier. This pigeon, while

perhaps originally used for flying, now is useless for that purpose and is kept for exhibition only. It is a large bird, with extremely long neck and legs, and carries a huge mass of flesh about the eyes and on the beak. This misuse of names has caused much of the credit due the true homer to be given a pigeon which would not home from a distance of a mile.

Many misunderstandings have arisen as to the homing abilities of the war-pigeon. Many persons appear to believe that it is merely necessary to whisper a few directions in the bird's ear, toss it into the air, and watch it strike out for the destination indicated. Other fancies, still wider of the truth, are numerous. There is nothing supernatural about the homer. It simply has a strongly developed love of home, a wonderful sense of direction, and the strength and courage to return to its loft when released at a distance.

Sense of direction is strongly developed in most birds. We have only to consider the marvelous migration flights of many species to realize that this is true. In domestic pigeons this sense, doubtless native to the wild rock-dove, from which they are descended, has degenerated through countless generations of life in captivity. Only in the homer has it been retained and magnified by long-continued breeding and selection for this point alone.

All sorts of theories have been advanced as to how a homer finds its way, extraordinary sight, electrical influences, and so on, and so on. It would seem, however, that it is simply that mysterious sense direction, common to all birds, strengthened and developed by "the intensive training to which the young homer is subjected." One important part of this is, that, from the very first, the bird learns well its home surroundings. To continue:

When free flying is begun, four hundred miles is the greatest distance birds of the year usually are asked to accomplish, but exceptional youngsters occasionally have done six hundred. Five hundred miles is the most popular long-distance race for old birds, but contests up to 1,000 miles are flown yearly. Eight hundred miles were accomplished in one day by a famous bird, but distances over five hundred miles usually require more than a single day.

The speed at which homing pigeons fly is one of the first questions that comes to the mind of the inquiring layman. This varies greatly with the distance, the shorter distances naturally being flown in much faster time. Flights of one hundred miles with a favoring wind, often are made at the rate of a mile a minute, or even better. Recent tests under the supervision of the Signal Corps showed that field messages sent by means of homing pigeons were delivered in much shorter time than by automobile or motorcycle.

The longest official distance flown by a homing pigeon was a flight from Denver, Colorado, to Springfield, Massachusetts, 1,680 miles. A little more than twenty-three days were required for this feat, the bird flying only by day, gleaning its food from fields and poultry yards as it came.

The fastest time for 1,000 miles is one day and eleven hours, a truly remarkable performance. This bird, rejoicing in the name of "Bullet," still lives in

Fort Wayne, Indiana. It is a satisfaction to know that both these world's champions were produced in America, giving assurances that the heritage of the now scattered lofts of Belgium has not been neglected in this country. Grandchildren of both these famous birds are included in the flock recently installed in the New York Zoological Park. Others of almost equally illustrious descent complete the new exhibit, which is proving of great interest to our visitors.—*Literary Digest.*

The Fulvous Tree-Duck (*Dendrocygna bicolor*)

By I. N. Mitchell

The Tree-ducks are natives of tropical or semi-tropical countries. Two species are found in the United States, the bird of our illustration and the Black-bellied Tree-duck. The range of the fulvous species extends from the southern border of the United States, and in Nevada and California, southward through Mexico, and reappears in the southern portion of Brazil and in the Argentine Republic. It has also been reported as a visitor to the States of North Carolina and Missouri.

Mr. Frank M. Woodruff, in speaking of his experience while on a collecting tour in Texas, says: "I found the Fulvous Tree-duck in small numbers resident on Galveston Island, but found them abundant and nesting in the heavy timber along the Brazos River, sixty miles from Galveston. In the early morning, as we would leave our boat and make our way to our blinds, on some small inland pond where we had prepared for collecting, we would flush immense flocks of this duck, which would fly over our heads at rather a low altitude, and continuously calling. On several occasions we obtained specimens by firing into a flock while it was still so dark that we could scarcely define the outlines of the individual birds. The fulvous tree-duck generally feeds in the night, and usually at a place several miles from the nesting site. They leave the feeding grounds on the first sign of approaching day. During my stay of three months in the Brazos River region, only on one or two occasions did I have an opportunity to observe this bird by the light of day. In form it resembles a miniature swan. It stands very high on its legs and presents a wonderfully curious and graceful appearance as it walks along the shore, feeding on shellfish and decaying matter."

"Owing to the nature of its diet, which consists chiefly of grain, roots, and water plants, the flesh of this bird is esteemed as an article of food, and many are killed for such.

"Nest: Located in the hollow of a tree, the bottom of the cavity usually being lined with feathers. They lay from ten to fifteen pure white eggs, and as many as thirty-two have been found in one nest, but these were probably laid by two or more females."



FULVOUS TREE-DUCK.

Dendrocygna fulva)

Nearly $\frac{1}{2}$ Life-size

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Valley Quail (*Lophortyx californica californica*)

Range.—Pacific coast region from southwestern Oregon south to Monterey County, California; introduced into Vancouver Island, Washington, and Colorado.

The two forms of quail inhabiting the coast and valley regions of Oregon and California, though differing enough in plumage to constitute races, are very similar in habits. As its name implies, the bird prefers valleys to mountains, although it may range upward as high as four thousand feet, at about which point it meets the habitat of its larger relative, the mountain quail. The valley quail is widely distributed, and being very prolific, it is, or was, exceedingly abundant over most of its range. Eastern sportsmen, knowing only our Bob-white, would find it difficult to credit tales that might be told of the numbers of valley quail that formerly congregated in favorable localities. Flocks of over two hundred were common enough, but in the late seventies and eighties I have occasionally seen several thousand assembled together near water. When flushed, successive bands of hundreds rose simultaneously with an extraordinary whir of wings, and the air was filled with their flying forms. Such sights are of the past, although the valley quail is still numerous in many regions. It is on good terms with civilization and is prone to frequent cultivated tracts, especially vineyards and gardens, even on the outskirts of populous towns. Its fondness for grapes does not endear it to the vine grower, and he often has to resort to extreme measures to protect the bunches of ripe fruit which probably furnish the quail not with food but with water, for this quail discovered the virtues of grape juice long before it was put on the market.

Baby Birds

By Archibald Rutledge, Jr.

TEN YEARS OF AGE

Baby birds are in the nest,
In the east and in the west;
Now the sun is going down
In her red and yellow gown.

When morning breaks with rosy light,
So very different from the night;
When clouds are sailing overhead,
And when the baby birds are fed.

The mother bird begins to try
To teach the little birds to fly.
And then at last they fly away.
They venture further every day

Notes on the Lyre Bird (*Menura victoriae*)

By A. E. Kitson

The Victoria lyre birds are restricted to the densely timbered, moist, hilly, and mountainous parts of eastern Victoria, for they must have abundance of moisture, and food consisting of insects, grubs, worms, etc. The Melbourne to Sydney railway may be taken as the approximate western limit of these birds. They have not been found to the west of that line, nor even nearly up to it in many parts. The reason apparently is that no densely timbered and scrubby humid ranges, with permanent creeks in them, occur to the west of this line on the northern side of the main divide, for neither Futter's Range nor the Mokoan Range near Benalla possesses these characteristics. The main divide itself, where the railway crosses it at Kilmore Junction, at an altitude of 1,145 feet, is rather low, and is not—apparently never was—densely scrubbed. Again, although eminently suitable country for these birds is comprised by the Macedon Ranges and those in the Blackwood district, near and on the main divide, also by the Otway Ranges, no lyre birds are found there. In the case of the last, the reason is undoubtedly its isolation. It is completely cut off from the other hilly and mountainous districts of Victoria by the great volcanic plains of the western district, which would form an effectual barrier to the dispersion of the lyre bird southward, even if it were present on the main divide to the north. The bird is so shy that, unless abundant cover be quite close at hand, it will not, under ordinary circumstances, venture into the open forest country, much less cross wide tracts devoid of arboreal vegetation. It is not so obvious why the lyre bird is not present in the thickly timbered and scrubby country of the Macedon Ranges, but apparently this also is due to its comparative isolation. On the east it is separated by a wide dissected volcanic plain, forming a natural barrier. The only practicable bridge of dispersion exists in the main divide itself, which from Wandong on the railway takes a general northwesterly course to Mount William, thence southwesterly and southerly to Mount Macedon. About Mount William itself there was, in its original state, a small area which might have been suitable for lyre birds, but on the portions between Wandong and Macedon the want of sufficient moisture and scrub is perhaps the reason of their absence. The birds seem to have spread over southeastern Australia from New Guinea by following through Queensland and New South Wales the mountains that form the watershed between the Darling-Murrumbidgee basin and the Pacific Ocean; and this within comparatively recent time, considered from a geological point of view.

It is a matter for wonder that in suitable country lyre birds have existed in such numbers as they have done. The native carnivorous fauna destructive to them comprise the dingo or wild dog (*Canis dingo*), the "tiger cat" (*Dasyurus maculatus*), and the "native cat" (*D. viverrinus*). These animals, especially the first two—which are much less numerous than the "native cats"—frequent lyre-bird country. These birds build their nests in spots usually accessible to dingoes,



LYRE BIRD.
Life-size.

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and easily so to the climbing "cats." They have almost invariably only one young one a year, and yet in most of Gippsland and the northeastern district lyre birds exist in much greater numbers than many of the other larger birds which nest in much less dangerous situations, such as the gray magpie, king lory, wonga-wonga, and bronze-winged pigeons, laughing jackass, and black cockatoo. The lyre bird is a day bird and roosts in trees at night, so except at nesting time it is practically safe from attack. It is a strong, active bird, and could, even if attacked by a "cat" in a tree, either free itself or drag the "cat" to the ground in its first struggle. But it is comparatively helpless when in the nest, and certainly the young are completely so. One fact, however, aids in its protection. The nest is usually not easily seen, especially if the female bird is inside with her tail raised over her head, as is her wont, thus nearly filling up the entrance and breaking the noticeable black cavity of the empty nest.

Near the source of the King River I have seen the birds going to roost in tall green trees. They can not fly upward like an ordinary bird, but rather partially jump upward in a slanting direction with their outspread wings aiding them by soaring, not flapping. To get into these tall young trees, ranging up to nearly 100 feet in height, they went up by stages, taking advantage of short and long tree ferns and the branches of smaller trees.

But the days of the lyre bird are numbered unless it develops the habit of nesting in trees or spots inaccessible to its far more dangerous enemy, an introduced one, the European fox. Scattered feathers and occasional feet are frequently met with in some parts of the country and attest the depredations of the fox, which has now spread over nearly the whole, if not the whole, of the State, and has moreover, developed the faculty of ascending slightly leaning trees.

As regards South Gippsland the lyre bird is doomed to extinction, and that by the agency of man. The mass of hilly country between the valleys of the Latrobe on the north; the Tarago, Lang Lang, and the Bass on the west; the Powlett and Tarwin and the narrow strip between Foster and Merriman Creek on the south and southeast, was a large tract, covered with an extremely dense vegetation and in a continuously moist or wet state before settlement took place. It was united to the main mass of the mountain system of eastern Victoria by a narrow elevated tract of volcanic and similarly timbered country between Warra-gul and Longwarry. In every gully and on every spur the lovely notes of the lyre bird could be heard, and evidence of its occupation could be seen on every hand. Thousands of these birds must have sported about this country, making the otherwise rather silent forest a huge natural concert hall. Now, alas, the march of settlement, with its breechloaders, forest spoliation, and bush fires, has brought about a sad change from a naturalist's point of view. With the disappearance of the scrub goes the lyre bird, and as the country gets cleared from various sides, so patches only of scrubby country are left. These become the temporary home of such of the outcasts as have escaped the gun, the clearing, and the fire, till they, in their turn, become felled and burnt, when the lyre birds disappear.

The Yellow-Headed Blackbird

(*Xanthocephalus xanthocephalus*)

By W. Leon Dawson

Description.—*Adult male*: Head, neck all around, and breast orange yellow; lores and feathers skirting eyes and bill, black; a double white patch on folded wing formed by greater and lesser coverts, but interrupted by black of bastard wing; usually a little yellow about vent and on tibiae; the remaining plumage black, dull or subdued, and turning brown on wing-tips and tail. *Female*: Dark brown; line over eye, throat, and upper breast dull yellow. Length 10.00-11.00 (254.-279.4); wing 5.30-5.60 (134.6-142.2); tail 4.00-4.50 (101.6-114.3); bill .90 (22.); tarsus 1.25 (31.8). Female smaller, length 8.00-9.50 (203.2-241.3).

Recognition Marks.—Robin size; yellow head and breast.

"Nest, a light but large, thick-brimmed fabric of dried reeds and grasses slung to growing ones, 5-6 inches in diameter and about as deep. Eggs, 3-6, 1.00-1.15 (25.4-29.2) long by 0.75 (19.1) broad; grayish-green, spotted as in *Scolecophagus*, with reddish-brown, not scrawled as in *Agelaius*" (Coues).

General Range.—Western North America from Wisconsin, Illinois and Texas to the Pacific Coast, and from British Columbia and the Saskatchewan River southward to the Valley of Mexico. Accidental in Middle and Atlantic States.

This Blackbird is essentially a bird of the Prairies, and it is eminently fitted for obtaining its living on the ground, since its legs and feet are strongly developed as if by and for scratching. Large numbers spend the winter sociably in the tule swamps of Texas and California, breaking up into smaller companies after the migration has been accomplished, and distributing themselves among the inland marshes of the Great Plains, and locally throughout the West, where they breed much after the fashion of Redwings. The species is of a rather roving disposition, one specimen having been taken in Greenland in 1820. Small bunches have several times been recognized on the wing by competent observers here in Ohio, and Wheaton cites the instance of a pair being seen in a low meadow near Groveport, in Franklin County, where it was thought to have bred, in the summer of 1873.



Scaled Quail (*Callipepla squamata squamata*)

Range.—From central Arizona to western Texas, north to southern Colorado and over most of the Panhandle of Texas, east nearly to central Texas, and south to the Valley of Mexico.

The cottontop, as the scaled quail has been dubbed from its conspicuous whitish crest, has a restricted range in the United States along our southern border. The country it frequents is dry and barren, and chaparral and mesquite form its favorite cover. On account of the dry nature of quails' food they are greatly dependent upon water, and hence the presence of large numbers of cottontops may be taken as a pretty sure indication that a stream or waterhole is not far away. Western quail of whatever species have learned to trust to their legs rather than their wings to carry them out of harm's way, and the cottontop forms no exception to the rule. When alarmed, a bevy will scatter hither and yon among the rocks or brush, to come together again when the supposed danger is past. When hard pressed it is an adept at close hiding. The bluish gray plumage of the cottontop harmonizes well with its usual surroundings and no doubt the confidence the bird reposes in its protective coloration is justified by long experience. Protected by the remoteness of its desert home this quail should long survive the fate of some of its less fortunate relatives, though the automobile, with its power to annihilate distance, is a new danger which it has yet to meet.

The habits of the chestnut-bellied scaled quail are so similar to those of the present species as not to call for separate mention. The bird ranges from the lower Rio Grande Valley in Texas to Coahuila and Nuevo Leon, Mexico.

Marbled Godwit (*Limosa fedoa*)

By Howard Jones

Synonym.—BROWN MARLIN.

Description.—*Adult*: General color pale cinnamon or ochraceous-buff; the head and neck all around streaked and spotted with brownish dusky; the back, etc., heavily and irregularly barred with the same—a typical feather from the scapulars has a broad dusky center shaped like a dandelion leaf, the complementary spaces being ochraceous-buff, or irregularly white; the primary coverts, and outer webs of three outer primaries brownish dusky; the breast (especially on sides), the sides, flanks and lower tail-coverts, with fine wavy bars of dusky; the superciliary line and throat immaculate; the axillars and lining of wings darker—say pale cinnamon-rufous; bill, slightly upturned, yellow at base, blackening toward tip; feet and legs blackish. *Immature*: Similar to adult, but immaculate on breast; sides and flanks less distinctly and extensively barred. Length 16.50-21.00 (419.1-533.4); wing 9.15 (232.4); tail 3.13 (79.5); bill 4.28 (108.7); tarsus 2.74 (69.6).

Recognition Marks.—Crow size; large size; long, slightly upturned bill; pale cinnamon coloration; “marbled” appearance of upper parts.

Nesting.—*Nest*, on the ground. *Eggs*, 3 or 4, light olive-brown, finely speckled and spotted with dark brown and purplish gray. Av. size, 2.18 x 1.64 (55.4x41.7).

General Range.—North America, breeding in the interior (from Iowa and Nebraska northward to Manitoba and the Saskatchewan). Migrating in winter to Guatemala, Yucatan, etc., and Cuba.

This good wight has wit enough at least to avoid our coasts of late; and Professor Jones in his recent catalog is able to add nothing to Dr. Wheaton's records. The bird cannot be blamed exactly, since one of the last records was of thirty-three, which were “shot in one day, near the mouth of the Little Miami, some years ago by ——————, Esq.”

According to Dr. Coues, the center of the bird's abundance in summer includes the northwestern prairie states and the region of the Saskatchewan. “It breeds in Iowa,” he says, “and in Minnesota and eastern Dakota, where I observed it in June, and where the eggs have been procured. I found it on the plains bordering the Red River, in company with Long-billed Curlews and great numbers of Bartramian Sandpipers, nesting like these species, on the prairie near the river, and about the adjoining pools, but not necessarily by the water's edge. In its habits at this season it most nearly resembles the Curlew, and the two species, of much the same size and general appearance, might be readily mistaken at a distance where the difference in the bill might not be perceived. On intrusion near the nest, the birds mount in the air with loud piercing cries, hovering slowly around with labored flight in evident distress, and approaching sometimes within a few feet of the observer.”



MARBLED GODWIT.
(Limosa fedoa).
About $\frac{2}{3}$ Life-size.

The Prairie Hen (*Tympanuchus americanus*)

By Amos Butler

Synonyms.—PRAIRIE CHICKEN; PINNATED GROUSE.

Description.—*Adult male*: Above dusky-brown to blackish, narrowly barred and spotted with ochraceous-buff of several shades; crown blackish, less spotted with buff; an elongated tuft of feathers on each side of the neck, brownish-black, the uppermost feathers rufous-and-buffy-striped on the inner webs; tips of feathers rounded or truncated; beneath the neck-tufts a bare space of orange-colored skin, largely concealed at rest; wing-quills, light fuscous, spotted with whitish or ochraceous-buff on external webs; tail, rounded, fuscous, blackening toward the tip, the central feathers narrowly white-tipped; chin, throat, and sides of head, buffy or ochraceous with a blackish malar stripe and an obscure spot of same color on side of throat; remaining under parts evenly barred with light grayish-brown and white, tinged more or less with ochraceous on sides and sometimes on breast; nearly unmarked on lower belly and crissum; tarsi fully feathered, plain ochraceous. *Adult female*: Similar, but neck-tufts smaller and shorter; tail regularly and narrowly barred with ochraceous-buff or tawny. *Immature*: Brownish above, with medial white streaks and heavy blotches of black; chest, brownish-tinged and spotted rather than barred. Measurements of six Monroeville Prairie specimens in O. S. U. museum.—Two males: length 18.25 (463.6); wing 9.25 (235.); tail 3.85 (97.8); bill from nostril .52 (13.2); neck-tufts, 3.30 (83.8). Four females: length, 17.15 (435.6); wing, 8.32 (211.3); tail 3.50 (88.9); bill from nostril .49 (12.5); neck-tufts 1.65 (41.9).

Recognition Marks.—Crow size; general barred appearance; elongated, erectile tufts on side of neck; distensible air-sacs distinctive.

Nest, on the ground in open fields or in the edges of swamps, lined with grasses and feathers. *Eggs*, 8-15, usually about a dozen, dull buffy-drab or olive, usually unmarked but sometimes speckled with brown. Average size, 1.70 x 1.27 (43.2 x 32.3).

General Range.—Prairies of the Mississippi Valley; south to Louisiana and Texas, east to Kentucky, Indiana, Ohio, Michigan and Ontario, west through eastern portions of North Dakota, Indian Territory and intervening states, north to Manitoba; general tendency to extension of range westward, and contraction eastward; migration north and south in Minnesota, Iowa and Missouri.

The life history of the Prairie Hen of Ohio will probably never be written; certainly not unless some one is at great pains to interview the older hunters of the passing generation, and succeeds in piecing together scraps of information which have lain long dormant in memory. Having become quite extinct within twenty years, the bird was confined to a few restricted localities in the north-central and north-western parts of the state for as many more, and it has been a half century since it was common even in those regions. So far as known the last survivors were seen during the early '80s in Erie and Huron counties. The last record for Franklin County is that given by Dr. J. M. Wheaton; November 16, 1878.

It is idle at this late date to bewail the loss of this noble game-bird. Its ways were to a certain extent incompatible with those of civilization. Experience has amply proven that the rural portion of a community will not stand the sole burden of support of a grain-eating bird, which genteel sportsmen from the city are allowed to slaughter at periodical seasons—and there is an end of discussion. Apparently the only alternative lies in imported birds of various sorts (the tamer the better), and in private game-preserves.

Fortunately the species under consideration has been fully studied in the prairie states farther west, and the brief sketch which follows is based chiefly on observations in Illinois and Iowa.

During the first days of April a mellow rolling boom comes over the prairies in the early morning or late afternoon hours. If the birds are plentiful the soft *ook-ah-oom-boo-hoo-oo-oo* may sound from several scratching-grounds or "walks" at once. In the corner of some large meadow or on some prairie knoll a company of twenty or thirty cocks and hens are gathered, the former bustling and bursting with excitement, the latter affecting utter indifference.

The cocks ruffle all their feathers, throw forward the erectile feather-tufts of the neck, inflate the distensible air-sacs until they look like ripe oranges; then rush forward across the ball-room floor with lowered heads and scraping wings while the air escapes in that tender, penetrating sob which reverberates a mile away. As the show proceeds the ladies get interested, yield somewhat of their frigid manner, and move about coyly among the strutting gallants. At the first few dances only pleasant mutual acquaintance is promoted, but on subsequent occasions, as attentions become more serious, conflicting interests are sure to be developed among rival cocks, and fierce and bloody battles ensue. To the victor belongs the choice of maidens, and that, too, on a generous scale. Of course, under such circumstances conjugal fidelity is a thing unknown, and it becomes a marvel that the females will pay daily visits to the scene of these disgraceful scrimmages.

The female hides her nest in some grass tussock of the open prairie, or in a deep, feather-lined depression at the edge of a swale, and sits closely upon ten or a dozen eggs. When thoroughly frightened from her nest she is not likely to return, or if she does, and finds the eggs handled, she will break them up in disgust. Incubation is completed in from three to four weeks, and the little brood is promptly led off to forage or hide at the behest of the wary and devoted mother.

The flock follows its mother until nearly full grown. As fall comes on several family troops are merged, and the company thus formed is joined by the hitherto exiled males. Under the contingency of persecution by gunners the flock scatters to right and left, each member rising in turn and making off rapidly with a vocal rattle which adds to the excitement of whirring wings. The bird is capable of sustained flights of several miles, much of which is accomplished by stiff downward sails of long duration. In the prairie states west of the Mississippi the females and young-of-the-year retire several degrees south in winter, but the hardier males usually endure the rigors of the season in the North.

White-Eyed Vireo (*Vireo noveboracensis*)

By J. A. Wheaton

Description.—*Adult*:—Above bright olive-green, duller on cervix; brighter on forehead and rump; wings and tail dusky, with bright edgings of olive-green; two yellowish white bars formed by tips of middle and greater coverts; spurious quill nearly half as long as second primary; second shorter than sixth; point of wing formed by third, fourth and fifth; below white or sordid; sides and flanks washed with bright yellow; lores and a ring around eye bright yellow; bill and feet dark; iris white, —hazel in young. Specimens differ chiefly in the yellowness or sordidness of under parts. Length 4.50-5.25 (114.3-133.3); wing 2.45 (62.2); tail 1.92 (48.8); bill from nostril .28 (7.1).

Recognition Marks.—Warbler size; yellow lores and eye-rings and yellow sides; yellowish white wing-bars, as distinct from *V. gilvus*, which it nearest resembles in point of size; white irises.

Nest, of usual Vireo construction, suspended from forked twigs, three or four feet high in underbrush or thickets. Eggs, 3 or 4 white, dotted sparingly with reddish brown or dark purple. Av. size, .76 x .56 (19.3 x 14.2).

General Range.—Eastern United States west to the Rocky Mountains, north to southern New England and Minnesota; south in winter from Florida to Guatemala and Honduras. Breeds from Florida and the Gulf States northward.

The manners of this "well-connected" bird have evidently suffered through close association with that "prince of mountebanks," the Yellow-breasted Chat. Like the larger mime the Vireo frequents brushy ravines and thickets at the edge of the woods, where he prowls and pries and practices all the tricks of the lightning change artist, and is ready at any time to join his voice in a volley of abuse levelled at the chance intruder. If you are not apprised of his presence by a sharp click heard in the depths of the thicket, the feathered *farceur* will mount a nodding wand and throw the succession of vocal somersaults which he calls his song. *Tup to wee-o, chipiti burtuck*, comes with surprising energy and distinctness from so small a throat and you are ready to follow at once upon the chase to which the wary bird invites you.

Mimicry is the White-eye's specialty. He follows it not only from a desire to be tuneful but from sheer love of mischief. Once, in Lawrence County, we heard a remarkable succession of sounds coming we knew not whence. The ravine was full of birds and we surmised Chat and Catbird and Mockingbird, until we came at last upon the center of attraction. A White-eyed Vireo was hopping to and fro upon a willow branch and singing vociferously while birds of half a dozen other species were ranged about him giving rapt attention,—among them a jealous Catbird, who listened with bill agape and drooping wings. The punchinello paused from time to time to think up new combinations while the audience shifted uneasily. Then he would break out with a new production, a jumble of three or four phrases from different artists, and this he would repeat

over and over with slight modifications at intervals of four or five seconds. The Chat note, a nasal *aoun*, was a favorite preface, but we recognized also Towhee, Summer Tanager, Song Sparrow, Catbird, Carolina Wren, English Sparrow, Wood Thrush, and Warbling Vireo, in the order named.

But while the bird is a good deal of a wag and something of a scold, we are always ready to applaud his humor, and we may as readily condone his "nippy" tongue when we remember that it is wielded in a good cause. The White-eyed Vireo builds low, seldom above seven or eight feet from the ground, and it is naturally anxious for the safety of its eggs or little ones. It is only when the welfare of these is threatened that the bird becomes disagreeable and personal, and not always then.

The nest shown in the near-by illustration was pointed out to me by a friend, Mr. C. H. Morris of McConnelsville. The bird was on but she occupied the center of a little bower which was guarded by a wall of drooping vines and bristling blackberry stems. With fear and trembling I cut an entrance way, removing the stems one by one, and glancing apprehensively at the sitting bird, but she sat on, unmoved. Next, the camera was brought in and advanced by slow stages toward the watchful bird. Many twigs required to be cut away, and there was much flapping of camera-cloths, gesticulating of unmanageable "legs," and clicking of shutters, but the white-eyed beauty sat nicely for her portrait,—once, twice, thrice, until the strain became too great for her. Next the nest and eggs were photographed, and after removing the Cowbird's egg (which appears in the picture just above the nearer rim) the rest were left to be gathered later in the day.

Returning some five hours later, the bird-man pressed eagerly into the copse, intending to collect the set of eggs for a well-known museum. The bird was on and happy now in a new-found confidence. Nearer—nearer—came the collector. The bird sat on. Finally moved by some strange impulse the man brought his face down close to hers, not above a foot away, and gazed wistfully, searchingly, into those trustful eyes. Then that old hard heart of mine melted within me and I turned and fled.

The Surf Scoter (*Oidemia perspicillata*)

By Frank M. Woodruff

The Surf Scoter is also known by several other popular names, such as the Surf Duck, the Surf or Sea Coot and, not infrequently, the Booby. The name Velvet Duck, though more commonly applied to the white-winged scoter, is also sometimes used to designate this species.

This Scoter is an American species and is only an accidental visitor to European coasts. Its range includes the "coasts and larger inland waters of northern North America; in winter, south to Florida, to the Ohio River and to San Quentin Bay, Lower California."



SURF SCOTER.
(Oidemia perspicillata).
About $\frac{1}{2}$, Life-size.

Our illustration is that of a male bird. The female is a sooty brown, silvery gray below and with much white on the sides of the head.

Immense flocks of the young of this species winter on San Diego Bay, California. Here the adult birds are of rather rare occurrence for they are able to withstand the rigors of an arctic winter and stay far to the northward where they are a common resident. In the vicinity of San Diego there was about one adult to every seventy-five or one hundred juvenile birds. The former may be easily distinguished by their very striking velvety black plumage, the white markings on the nape and forehead standing out in bold contrast. These white markings remind one of the white bull's eye on a target. Because of this striking color characteristic the Surf Scoter is frequently called the Target Head by the California hunters.

They are wary birds and it is often necessary to make a long detour in order to reach a spot near to a flock without attracting their attention, as they ride the crest of the waves in a heavy surf. The younger birds will remain in the surf so close to the shore that frequently they are cast high and dry upon the beach. When this happens it is very amusing to watch them awkwardly scramble back and enter the water again. The older birds are usually much more shy, remaining far out on the water where they congregate in pairs, though sometimes there may be six or eight together.

As the tides enter San Diego Bay they carry in the loose seaweeds in which are entangled numerous dead starfish and other forms of marine life. These form the principal food not only of the Scoters, but also of all the water fowls, such as other species of ducks, the cormorant, the pelican and the beautiful California gull.

The note of the Surf Scoter is to me the most pleasing of all the ducks. It is a soft, mellow whistle ending in a cluck! cluck!

Mr. Nelson states that the Surf Scoter appears in the vicinity of St. Michaels, Alaska, about the middle of May and nests commonly in the marshes of the delta of the Yukon river. It also nests in large numbers on the Atlantic coast from Labrador northward.

Dr. Coues, speaking of these birds as he observed them in Labrador, says: "They are tough birds and remarkably tenacious of life and require a heavy charge to kill them. They are known as Bottle-nosed Coots, a name given in allusion to the very peculiar shape and color of the bill.

Its nest, usually placed on grassy knolls, in fresh-water marshes near the sea, is made of dried weeds and grasses and lined with the down of the bird. It is evident that the female performs all the duties of incubating the eggs and carrying for the young, for during the nesting period large flocks are observable that consist entirely of males, constantly feeding in their accustomed haunts.

This ocean duck feeds "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."

Black-Throated Green Warbler (*Dendroica virens*)

By W. Leon Dawson

Description.—*Adult male*: Throat and breast above and on sides glossy black; sides of head and neck bright yellow; a line through eye, expanding behind, olive-green; above bright olive-green, clearing to yellow in front and on sides of crown; spotted or streaked with black on middle back, and sometimes, minutely, on crown; upper tail-coverts ashy or olivaceous-edged; wings and tail dusky with ashy edgings on external webs; two broad white wing-bars; outer pair of tail-feathers almost entirely, and succeeding pairs decreasingly white on inner webs; middle of breast, belly and crissum pale yellowish white; bill black; feet dark brown. *Adult female*: Similar, but with less black streaking on back, and with black of throat and sides extensively veiled by yellowish skirtings of feathers. *Immature*: Like female, but with more yellow below, and with black of throat still more thoroughly concealed by yellow tips. Length 4.50-5.40 (114.3-137.2); av. of ten Columbus specimens: wing 2.49 (63.2); tail 1.91 (48.5); bill .38 (9.7).

Recognition Marks.—Medium size; bright yellow of cheeks and forehead contrasting, or not, with black of throat.

Nest, of twigs, bark-strips, grass, moss and feathers, placed ten to fifty feet high in coniferous trees. *Eggs*, 4, white with creamy or buffy tints, speckled and spotted with lilac-gray and rufous-brown, usually gathered in loose wreath about larger end. Av. size, .63 x .49 (16. x 12.5).

General Range.—Eastern North America to the Plains, north to Hudson Bay Territory, breeding from Connecticut and northern Illinois northward, and south along the Alleghenies to South Carolina. In winter south to Cuba and Panama. Accidental in Greenland and Europe.

If we are sometimes disposed to envy the ornithological pioneers, Wilson, Audubon and the rest, because of their unique opportunities for observing birds now rare or extinct, we may comfortably reflect upon the fact that that most fascinating and distinctively American family, the *Mniotillidae*, is yearly marshalled before our eyes in a way that was denied the fathers. The chief reason for this is one which we deplore otherwise, viz., the continued denudation of the forests. It is probably safe to say that in Wilson's day, that is, during the opening decade of the last century, eighty-five per cent of the area of our state was covered with timber. In such a forest even of the great Warbler army, whole regiments might pass year by year unnoticed, and many species be held rare which were really abundant. But as early as 1885 the forest acreage was estimated at only seventeen per cent of the whole. These are the latest statistics available, but the percentage, without doubt, has steadily decreased since then. In this respect, then, we are favored; for if the birds would forage at all, they must needs avail



BLACK-THROATED GREEN WARBLER
(*Dendroica virens*).
Life-size.

themselves of our restricted food-lots and swarm through our fenced orchards. We are unmasking hidden beauties, and compelling reluctant fays to show themselves.

The Black-throated Green Warbler, as an individual, is little troubled over our ingenious compulsion, for it is not at all unwilling to show itself, and has never learned a wholesome fear of man's presence. It is one of the commonest warblers both in spring and fall, and seems in no hurry to get on, but there is no recent evidence that it ever fails to make the passage of Lake Erie. Confined for the most part to the tops of trees, it not infrequently ventures down to inspect you, hopping daintily from branch to branch, and leaning forward to peer at you inquiringly as the distance decreases.

The song is an odd little affair of lisping, squeaky notes, but as innocent as the upturned face of a questioning child. Its delicacy defies vocalization, but Mr. Burroughs has proposed a graphic representation which is quite unforgettable, "— — — V — —".

Family groups of six or seven individuals may be seen early in the fall hunting close together, but as the season advances the weakening bonds of kinship are lost in the sense of clanship, and this in turn is blended with the sense of racial consanguinity, which more or less affects all warblers. Rev. W. F. Henninger reports a remarkable occurrence which took place near South Webster, in Scioto County. He says, in substance: On September 28, 1899, I ran into a company of Warblers which I would place conservatively at two thousand individuals. It was like a regular army as it moved up a long, sloping hillside, and with wonderful rapidity. The wind was blowing almost a gale from the north, and the birds allowed themselves to be urged before it in the direction of their ultimate retreat, like half-stubborn autumn leaves. Lisping, chipping, whirling, driving, they hurried on and I after at full speed, panting, and wishing devoutly for a better chance to identify the fleeing forms. Arrived at the top of the hill the army suddenly halted and when I arrived breathless I had time to note the arrangement by species, not rigid indeed, but sufficiently striking to command attention. In the center were seen Hooded Warblers and a sprinkling of Chestnut-sides. On either side of these in turn were Black-throated Greens and Sycamores, about two hundred of each; while the wings proper were held by Bay-breasts and Black-polls in enormous numbers. The order, as I say, was not strictly maintained, but the specific grouping within the general ranks was at least remarkable. As the birds deployed to feed the specific lines were not quite obliterated.

The Killdeer

By Alexander Wilson

This restless and noisy bird is known to almost every inhabitant of the United States, being a common and pretty constant resident. During the severity of winter, when snow covers the ground, it retreats to the seashore, where it is found at all seasons; but no sooner have the rivers broken up than its shrill note is again heard, either roaming about high in air, tracing the shore of the river, or running amid the watery flats and meadows. As spring advances it resorts to the newly plowed fields, or level plains of bare grass, interspersed with shallow pools; or in the vicinity of the sea, in dry bare sandy fields. In some such situation it generally chooses to lay its eggs, about the beginning of May. The nest is usually slight, a mere hollow, with such materials drawn in around it as happen to be near. In one instance I found the nest of this bird paved with fragments of clam and oyster shells, and very neatly surrounded with a mound or border of the same, placed in a very close and curious manner. In some cases there is no vestige whatever of a nest.

The eggs are usually four, of a bright rich cream or yellowish clay color, thickly marked with blotches of black. They are large for the size of the bird, measuring more than an inch and a half in length, and a full inch in width, tapering to a narrow point at one end.

Nothing can exceed the alarm and anxiety of these birds during the nesting season. Their cries of *killdeer, killdeer*, as they winnow the air overhead, dive, and course around you, or run along the ground counterfeiting lameness, are shrill and incessant. The moment they see a person approach, they fly or run to attack him with their harassing clamor, continuing it over so wide an extent of ground that they puzzle the pursuer as to the particular spot where the nest or young are concealed. In this respect they very much resemble the Lapwing of Europe.

During the evening and long after dusk, particularly on moonlight nights, their cries are frequently heard, both in the spring and fall. From this circumstance, and from their flying about both after dusk and before dawn, it appears probable that they see better at such times than most of their tribe. They are known to feed much on worms, many of which rise to the surface of the ground during the night.

The Killdeer is more abundant in the Southern states in winter than in summer. Among the rice fields and even around the planters' yards, I observed them very numerous during February and March. Their flight is something like that of the Tern, but more vigorous; and they sometimes rise to a great height in the air. They are fond of wading in pools of water, and frequently bathe themselves during the summer. They usually stand erect on their legs,

and run or walk with the body in a stiff horizontal position; they run with great swiftness, and are also strong and vigorous in the wings.

During the extreme droughts of summer, these birds resort to the gravelly channel of brooks and shallow streams, where they can wade about in search of aquatic insects. At the close of summer they generally descend to the seashore in small flocks, seldom more than ten or twelve being seen together. They are then more serene and silent, as well as difficult to approach.

In summer the Killdeer is found in North America as far north as Newfoundland and Manitoba. In winter it migrates southward, wintering from the lower Mississippi Valley and Virginia to Central and South America.

The Killdeer has become very rare in New England, so that in many states Wilson's opening sentence is no longer true.

Mountain Quail (*Oreortyx picta picta*)

Range.—Pacific coast from southwestern Washington south to Monterey County, California.

All our American quail are beautiful, but this superb denizen of the mountain sides bears away the palm. Its elegant form, rich coloration, its long, nodding black plumes, its brown gorget, and its alert carriage lend the bird an air of rare distinction. Our plumed knight of the mountains loves not the low country with its dry watercourses, its heat and dust, but chooses for his permanent home the mountain valleys and hillsides with their pure air and numerous streams. This quail, with its two varieties, is strictly limited to the west coast where it ranges from Lower California into Washington. Formerly it was abundant over most of its range, and it is yet numerous in many localities. In Oregon it used to be trapped in great numbers, and as long ago as 1880 was commonly exposed in the city markets in crates containing twenty or more. Even the market men decried the practice, but nevertheless cheerfully sold the birds at three dollars per dozen. A sad sight it was to see these beautiful creatures captive and exposed for sale. My own experience with the mountain quail dates back many years. All the covies I saw in California and Oregon were comparatively small, always less than ten, and the bird appears rarely, if ever, to associate in great gatherings composed of several or more independent covies, as does the valley and Gambel's quail. When in their ordinary mountain haunts, plumed quail are tame enough, altogether too tame for their own safety, but I am told that where much pursued by sportsmen with or without dogs, they rapidly lose their unsophisticated ways and learn to take good care of themselves.

The Habits of the King Rail (*Rallus elegans*)

By Gerard Alan Abbott

The family Rallidae includes nearly two hundred species and sub-species of birds. They are distributed over the greater portion of each continent, the coots, gallinules and rails being the American representatives of this interesting family.

The rails, whose feet and legs are remarkably developed for the purpose, traverse the almost impenetrable swamps and quagmires with unequaled agility, taking wing only as a last resort. Rails are less aquatic than coots or galinules, and though not gregarious are seldom found breeding in isolated pairs. Frequently several varieties of rails occupy their respective nests within a few yards of each other, and again all three species will deposit their eggs in a single nest, which is usually that of a King Rail, the largest of the genera.

The Marsh-hen, King, or Red-breasted Rail, is brown in color of varying shades, and the feathers are streaked or mottled with black. The sexes are indistinguishable and the young are covered with down which is jet black. The body is very slim and compact, enabling its owner to pass through tangled vegetation without hindrance.

The restricted breeding range of the King Rail includes the eastern portion of the United States, westward to the states bounded on the east by the Mississippi River. In Wisconsin, southern Canada and Maine this Rail is known only as a casual visitor. The states bordering on the Great Lakes—Illinois, Indiana, Ohio, Michigan and New York—probably contain the most popular resorts of the King Rail, where it nests abundantly in suitable localities. South of the Ohio River the King Rail occurs in limited numbers and is undoubtedly a permanent resident wherever found. On the sea-coast the King Rail is replaced by a salt water variety known as the clapper rail. The two species are closely allied, but the latter may be identified by its smaller size and paler colors.

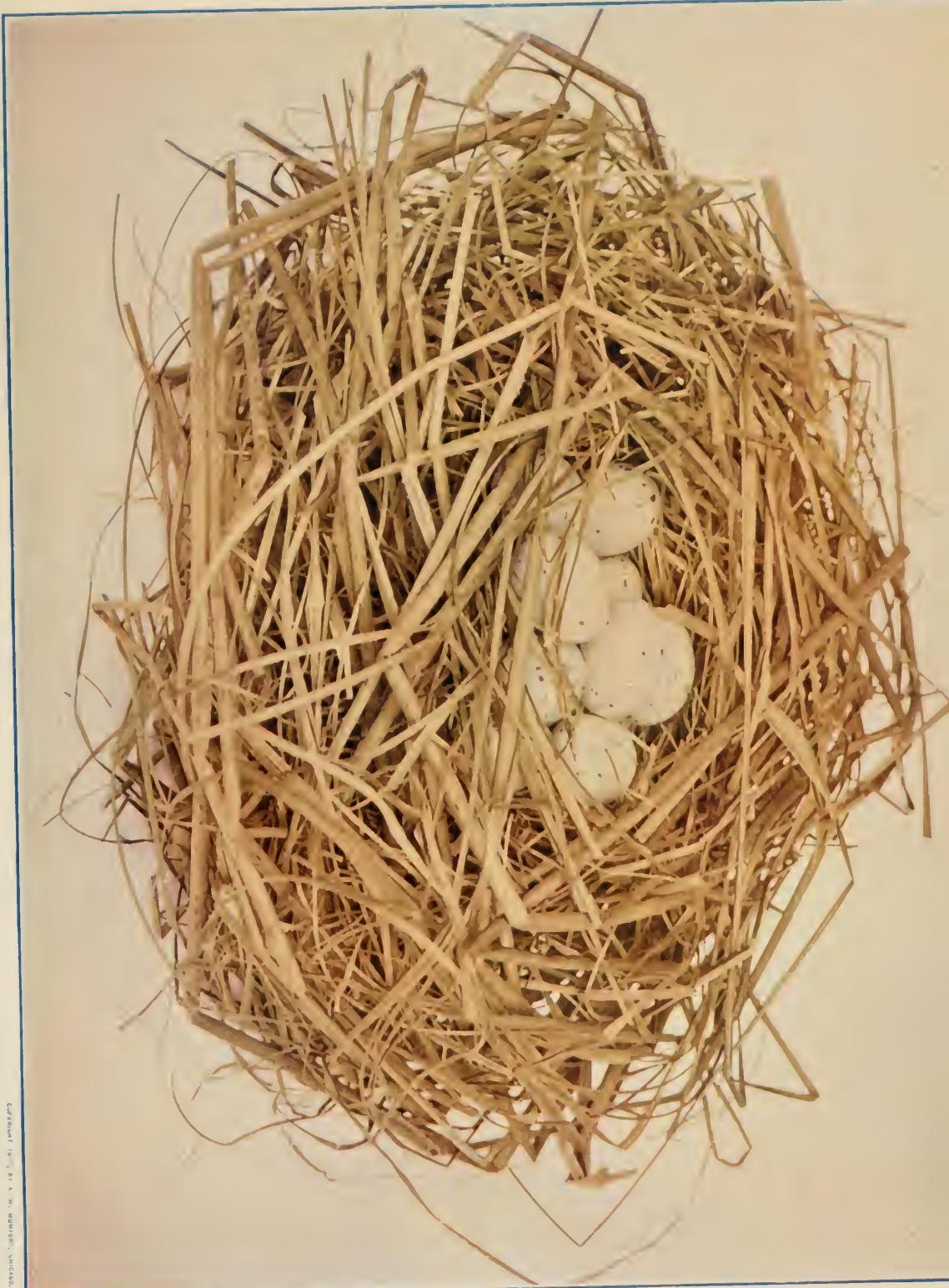
I have devoted considerable time to the study of the King Rail—both during its migrations and in its domestic life—and I consider it one of the most bold, shrewd and fearless of water fowls. No one should be surprised at the antics of a rail. A neighbor discovered one in her front room after leaving the door ajar one morning. King Rails have been observed about the barnyard in company with the poultry. On several moonlight nights, between the hours of eight and ten, during the months of May and June, I have heard and seen this droll looking bird strolling about the streets of Chicago, perhaps one-half mile distant from the nearest marsh. This may be called one of its nocturnal escapades, and as it wanders from yard to yard its curiosity increases. It ventures upon the sidewalk and poses under the light of a street lamp and suddenly becomes hilarious, “clucking,” “cackling” and “creeking,” its hoarse voice breaking the silence of the calm spring atmosphere, and then it vanishes as if by magic.

Nest building begins in April and often requires a week for completion.

NEST OF THE KING RAIL

(*Rallus elegans*).

$\frac{1}{2}$ Life-size.



Fresh eggs may be found from the first day of April to July, the time varying according to locality and season. On or about the eighteenth of May is the best period to study the nesting habits of this rail in northern Illinois and Indiana. Usually a complete set of eggs, ranging from eight to fourteen in number, has been laid and the parents have begun the duties of incubation, which cover a period of three weeks.

Clumps of dead rushes, fallen reeds or tussocks of marsh grass are favorite nesting places, and so attached do the birds become to some selected corner of the marsh that the same pair return annually to their chosen spot. The nest proper is generally built of those materials which surround and conceal the site, and is so constructed, with an opening on the side sufficient in size to admit the owner, that it is almost impossible to see from above the sitting bird or her eggs without first parting the vegetation. In several instances I have been obliged to lift the incubating bird from her nest that I might obtain a view of her treasures.

The eggs exhibit considerable diversity in size, shape and color. Typical eggs resemble those of the domestic fowl in shape. The background of the egg may be bluish white, creamy buff or light brown. The markings consist of specks, spots, blotches and scrawls of numerous shades of red, brown and lilac. In size the eggs range from one and fifty-hundredths inches to one and ninety-hundredths inches long by one and twelve-hundredths inches to one and twenty-eight-hundredths inches wide.

Clapper Rail (*Rallus crepitans crepitans*)

Range.—Breeds from Connecticut to North Carolina; winters mainly south of New Jersey.

The distribution of the clapper rail complements that of the king rail, for the clapper inhabits the salt-water marshes as its relative does the fresh-water meadows. Though occasional as far north as Massachusetts, the clapper rail does not begin to be numerous until Long Island is reached. Farther south it inhabits the salt marshes in great numbers. It used to nest abundantly on Cobb's Island and other sandy islands along the Atlantic coast which are fringed on the landward side by dense beds of rushes. When on Cobb's Island, I once offered a small boy a quarter apiece for some of the young clappers, as I had never seen them. In about an hour he returned and to my astonishment turned out of his cap more than a dozen of the quaint, black, fluffy youngsters, some of which apparently had just chipped the shell. It appeared that an uncommonly high tide had driven the birds from their usual haunts, and the nestlings were to be had by the dozen by wading through the reeds and picking them off the piles of floating debris. I had the pleasure of returning most of them to their native haunts, and the rapidity with which they lost themselves among the reeds showed that they needed no parental lectures on the art of concealment.

A closely allied species, the California clapper rail, represents the eastern bird on the Pacific coast of Oregon and California. As the name implies, clapper rails are noisy birds, and their harsh notes are often heard coming from the thick reeds when the callers are invisible. They lay from seven to a dozen eggs and are so prolific that with a decent regard for seasons and bag limits, they should hold their own to the end of time.

Rusty Blackbird (*Scolecophagus carolinus*)

By Lynds Jones

Synonyms.—RUSTY GRACKLE; THRUSH BLACKBIRD.

Description.—*Adult male in breeding plumage*: Uniform glossy black, with bluish green reflections; iris pale straw. At other seasons the plumage bears rufous or "rusty" tips above, especially anteriorly, and rufescent or buffy tips below, in varying proportions; a light line also over the eye. The full nuptial dress is seldom seen in Ohio, but may be found by narrowly observing the latest migrants in spring. *Adult female in breeding plumage*: Blackish slate, lustrous above, duller below. At other seasons the general cast of plumage is lighter, and the overlay of rusty or buffy is similar to that of the male. *Adult male*,

length 9.00-9.60 (228.6-243.8); wing 4.49 (114.); tail 3.68 (93.5); bill .76 (19.3). Female smaller.

Recognition Marks.—Robin size; plumage usually rusty-tinged during migrations in Ohio. If in full plumage they are the only pure black birds of the size. In the common flocks of "blackbirds" in early spring, the high whistling notes belong to the Rusties.

Nesting.—Does not breed in Ohio. Nest, of sticks and coarse grasses held together with mud, lined with fine grasses and rootlets, placed in bushes or high in coniferous trees. Eggs, 4-7, grayish or pale green, speckled and mottled with purples or reddish browns, and without streaks or lines. Av. size, 1.00 x .76 (25.4 x 19.3).

General Range.—Eastern and northern North America, west to Alaska and the Plains. Breeds from northern United States northward. Winters from Kentucky and Tennessee southward.

The great roving hordes of "Blackbirds" in early spring are likely to contain at least a sprinkling of "Rusties," but usually they are not so eager to press on as are the impulsive Redwings, and so they fall out of the ranks by dozens and scores. Succeeding platoons composed of these birds alone keep arriving from the south during the last weeks in March and the first in April, while many do not depart for their summer home in the far north till the first or even second week in May.

Rusty Blackbirds are to be found chiefly in damp woods and along streams. While with us they are rather retiring, partly because they are pilgrims—and it behooves all such to be modest—and partly because they undergo the spring moult *en route*. The last trace of rusty edging must be removed from the feathers before the breeding ground is reached, though such as have attained the full dignity of dress suits may declare their hearts to the ladies before they quit Ohio.

In some tiny glade in the heart of the budding forest it is that one comes upon a company of these sojourners, feeding perhaps upon the ground. They walk about with easy grace or shift by little flights, males and females flocking together, and all engaged in a subdued but voluble chatter. An instant hush follows the signal of alarm and the flock rises silently to the neighboring tree-tops or passes to a distant spot, where their conversation is gradually resumed. As the alarm decreases the birds come gradually dropping down, one by one, until confidence is completely restored again.

The notes of the Rusty Blackbird consist of a bubbling medley of l's and r's through which clear, high-pitched whistles or squeaks are interspersed at will. *Gorwhillier* conveys some idea of the liquid quality of the former, and expresses also in part the effort which is required to produce them. The effect of a full chorus is really quite pleasing. If not "music" it is at least among the less disagreeable of noises.

Winter Birds*

To know birds, to love birds, to know how to have birds love you is a great trio of educational achievements.

Scholarship is knowing about nature and human nature, education is knowing nature and human nature.

Scholarship is crystallized knowledge, education is knowledge in action.

The easiest and most beautiful way to know nature in action is through birds. The easiest way to know birds most completely is to know them in winter.

In spring, summer and autumn birds have no need of you and they care little for you except as a by-product of experience.

All nature is catering to the birds and they crave bird comradeship from early spring to late autumn.

But in winter nature often plays them false. Then they are liable to be absolutely dependent upon human nature.

Anybody can love birds in their song days and nesting time. Then the whole bird world is on dress parade, but in winter all is changed. The birds in winter are like a bride in kitchen attire, while in summer they have a party dress and have party manners.

Frank M. Chapman is one of the birds' best friends, or rather he helps all people, children especially, to befriend birds.

The coldest, wildest days in winter are the coziest days in the home. When it is possible or undesirable to brave the rigors of a northern winter, we love home and indoor life most, but those are the days that spell terror for birds.

If the winter birds could talk a human language they would give Frank M. Chapman a nobler and more glorious reception than America will give Foch when he comes to us, for he has done more to make the winter world safe for birds in civilized communities than Foch has done toward making the world safe for democracy.

In our "Winter Birds" Mr. Chapman has done more for us and for the birds in proportion to the price of the book than he has done elsewhere. His chapters are on home birds, field birds and forest birds, and in vivid and brilliant description and through illustration he makes it delightful to think about winter birds, to know them, to serve them, to have them appreciate the human side of us.

*"Our Winter Birds: How to Know and How to Attract Them." By Frank M. Chapman.

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