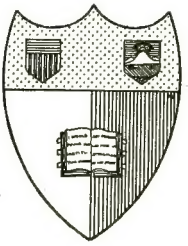
BIRD STUDIES *for* HOME & SCHOOL

HERMAN C. DE GROAT



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RED-HEADED WOODPECKER.
Life-size.

BIRD STUDIES
FOR HOME AND SCHOOL

SIXTY COMMON BIRDS
THEIR HABITS AND HAUNTS

BY

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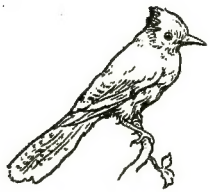
PRINCIPAL GRAMMAR SCHOOL No. 31, BUFFALO, NEW YORK



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PREFACE

This book is the outgrowth of four years of experience in the preparation of bird lessons for a city school of more than two thousand pupils. After beginning this line of nature work with much trepidation and many protests, the teachers soon came to favor and enjoy it. From the first lesson "Bird Study" was popular with the children, who looked forward to the bird lesson as the brightest hour of the week.

The first purpose of this book is to present to teachers a short course in one branch of nature study in such a form that they may easily prepare themselves to teach it. It is of little use to outline courses of study in nature work and direct teachers to formulate practical lessons accordingly. Few teachers have the time, the experience or the training to enable them to select material for proper nature lessons. They need assistance which outlines lacking the subject-matter cannot give them. This book presents the lessons ready for class use.

A second purpose is to offer to young people in school and at home a series of simple lessons on sixty common birds, the most of which may be seen in parks or woods, in city or country. In view of the intimate relation which birds bear to agriculture, a knowledge of their habits is of the highest importance to us. All observers of birds soon become bird lovers and strong defenders of their rights. If this book helps to promote a more intelligent appreciation of the usefulness of birds, and creates in some measure a more determined purpose to protect and preserve them from harm, it will have accomplished its highest aim.

HERMAN C. DE GROAT.

Buffalo, N. Y., October, 1911.

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DIRECTIONS TO TEACHERS

Compare the formal description of the bird at the opening of each lesson with the picture of the bird, drawing from the pupils the colors of its plumage, its markings, its size and other means of identification. The nest, its structure, size and location, and the eggs and their markings should receive attention. The habits of the bird should be carefully taught. If any of the class have seen the bird, give them an opportunity to state their experiences. In the cities, classes should be taken to museums containing mounted specimens to study the birds. If possible, every bird lesson should be followed by the identification of the bird out of doors. Opera glasses are helpful in this work. Frequent trips to the parks, fields and woods should be made during the spring and summer to observe the habits and learn the calls and the songs of the birds.

The birds that are permanent residents may be studied in the winter, and as the season advances other species may be taken up as they arrive from the south. These lessons are arranged upon this plan. To allow time to observe the birds, only one or two lessons a week should be given from the book; but field work may be pursued at all times.

To obtain the best results, the book should be in the hands of all the pupils of the grammar grades. The teacher alone needs the book in the primary grades. She must adapt the language of the lessons to the age of the children. The first paragraph of each lesson contains a description of the male bird. If the female is not mentioned, it is because the two birds are alike.

Most of the birds discussed in this book are found at some season of the year in all parts of the United States east of the

Rocky Mountains and in Canada. As the time of arrival and departure of migratory birds depends largely upon latitude and climatic conditions, no reliable table of dates of migrations can be made for a wide area of country. The best that can be done in this respect is for each observer to make a table for himself remembering that the time of migration may vary somewhat every year. To encourage pupils to observe carefully, a bird Calendar may be kept by the school or by a grade, under the direction of the teacher, showing the name of the bird, the date of its arrival and the name of the pupil who saw it first.

Blank pages are left for memoranda on migrations, habits and local haunts of the birds named, as these may come under the observation of the careful teacher or student. The greatest advantage will be derived from the use of these pages if nothing but important facts are entered on them.

As this book is designed to be elementary only, all technical and scientific terms and classifications have been omitted. Every teacher, however, should have one or more standard works on ornithology in her library or at hand for reference. The following books are among the best works on this subject and the author acknowledges his indebtedness to them: Key to North American Birds, Elliott Coues; Birds of Eastern North America, Frank M. Chapman; Birds of the United States and Canada (Revised Edition), Thomas Nuttall; Our Birds and their Haunts, Hibbert J. Langille; Birds and Bees, John Burroughs; Bird Homes, A. Radclyffe Dugmore.

THE USEFULNESS OF BIRDS

Birds are so beautiful in color and charming in song that they naturally attract and hold our attention. Their beauty and sweetness have always been favorite themes of the poets. Few have ever emphasized their helpfulness to man. Our own Longfellow is an exception. In his "Birds of Killingworth" he has given us a great lesson on the usefulness of birds, which though clothed in poetic language is proven by scientific investigations to be no fiction.

Mr. Frank M. Chapman says, "The economic value of birds lies in the service they render in preventing the undue increase of insects, in devouring small rodents, in destroying seeds of harmful plants and in acting as scavengers. Leading entomologists estimate that insects cause an annual loss of at least two hundred million dollars to the agricultural interests of the United States. . . . If we were deprived of the services of the birds, the earth would soon become uninhabitable."

Birds live mainly upon mice, rats, caterpillars, worms, insects and the seeds of troublesome plants. All of these are harmful to arboriculture, agriculture and horticulture and cause great loss and labor. The means which nature has provided to check and destroy these pests of forest, field and garden are the birds. Ignorance of this fact has led to the wanton destruction of these protectors of man's interests. The increase of noxious insects is largely due to the havoc wrought among birds by thoughtless boys, lawless hunters and barbarous fashions.

Through the Department of Agriculture, the Government has shown the usefulness of birds by making careful investiga-

tions concerning the kinds of food which the various species eat. This has been done by the examination of the contents of the stomachs of a large number of the most common birds. The results prove that we are debtors to nearly every species of bird that flies. Even the Hawks, Owls, Crows and Blackbirds which are condemned by many people as altogether vicious are placed high on the list of protectors of our welfare.

That injury is done by a few birds cannot be denied; but science teaches us that this injury is largely overestimated. More than half of the food of birds considered harmful consists of things injurious to plant life. Knowing these facts, we should not let prejudice blind us to the truth. Even the worst birds pay for their keep many times over and are worth preserving. All the birds are our devoted servants, asking no pay for their unceasing labors but the right to live.

Ornithologists and bird lovers are moving the legislatures of many states to pass laws for the preservation of song and game birds. These laws forbid the killing of the former for any purpose and limit the period for hunting the latter to a few weeks in each year. Heavy fines properly follow the violation of such laws.

MIGRATIONS OF BIRDS

During the summer our woods and fields are the homes of vast numbers of happy birds; but as fall approaches, they begin to disappear, and before winter comes, nearly all of them have gone. Late in February, the hardiest kinds begin to reappear again. These are quickly followed by other varieties and in early June we are once more charmed with the bright plumage and sweet songs of the full chorus of birds.

Not all the birds, however, leave us in winter. Some remain throughout the year. These we call permanent residents. Those that come in the spring and return to the south after raising their young are summer residents. Others that come down from the far north to spend the winter here, are winter visitants, while still others that only pass through our section north and south are transient visitants. The migration periods afford excellent opportunities for the study of the several kinds of birds.

Why do birds migrate? Ornithologists are not able to answer the question fully, but they agree that the lack of food and the severity of our climate in winter drive many varieties of birds to warmer lands. But why birds leave those warmer climes teeming with bird food of every kind and come back through thousands of miles of distance to the colder north with its short summers and scant food supply is still an unsolved problem.

Where do the birds spend the winter? Careful observations made over a large part of the Western Continent prove that the winter homes of most of our migratory birds extend from the Southern United States through the islands of the

Carribean Sea, Mexico and Central and South America even to Patagonia.

How do these tiny creatures make such long journeys? Most birds from Eastern North America follow the coast line southward, stopping frequently to rest and feed as they go, until they reach Florida and the Gulf States where they are joined by immense flocks of other birds that have come down the Mississippi Valley about the same time. Multitudes of them remain there until spring. Many others, after a few hours' flight, find homes in Cuba and nearby islands, while still others, intent on reaching Mexico or South America, strike directly across the Gulf in a southwesterly direction and continue on the wing until they have covered seven hundred miles of distance.

How do they avoid their enemies and how do they find their way in their migrations? Swift-flying birds like the Swallows have little fear of the birds of prey. They travel boldly by daylight and rest at night; but many migrants dreading their enemies rise high in the air, and guided by the streams and the mountains, move only at night. At such times numbers of them may be seen flitting across the face of the moon. So continuous is this stream of moving birds that the young ones, which cannot know the way, make their first migration by simply falling into line with the older birds that have learned the course on former journeys.

But sight, marvelously keen as it may be, is not the only sense which guides the birds in their movements. They possess a highly developed sense of direction which takes the place of sight when all landmarks are wanting. This is sufficient to enable certain birds to make the journey over the Atlantic Ocean from Nova Scotia direct to South America, twenty-five

hundred miles away, with no land but the Antilles along the route to guide them.

The time of migration is full of danger to many birds. Neither sight nor sense of direction avails them against severe storms. Often they are thrown far out of their course by high winds, and while battling with these, many become exhausted, fall into the sea and perish. Dense fogs are also dangerous to birds in migration. Being unable to see their course at such times, they lower their flight and come so near the earth that thousands of them strike against lighthouses, tall buildings, monuments, telegraph and telephone wires and dash themselves to death.

BIRDS' NESTS AND EGGS

The location of nests is largely determined by the nature of the birds that build them and by the kinds of food which those birds require for themselves and their young. The tamer and more trustful species make their nests in the fields, the orchards and about our dwellings, while the shy and fearful ones seek the seclusion of the deep woods.

Nests are found on the ground, among the shrubbery, in the branches and trunks of trees, on rocks and housetops, in cracks and crannies of cornices and steeples, under eaves and bridges, on beams and ledges of buildings and at the end of deep tunnels in the earth. In fact, there are few suitable places where some bird's nest may not be found; but every species of bird has its preferred spot for nest-building and it generally adheres closely to it.

Those birds that find their food in and near the waters of the ocean, the lakes and the streams do not go far from their feeding places to build their nests. They seem to understand that they must soon take their young to the water's edge and, therefore, that the distance between the nest and the water must not be too great for the little ones' strength; but the birds that live upon seeds and insects often go far inland for nesting without fear of starvation to themselves or their young.

As we walk in the fields or the woods in May or June, we are almost certain to startle some birds and cause them to rise and fly from their nests. The desire to find and look into nests is a natural impulse that few persons can resist. The disturbance of these birds should end with the look at the marvelous nests, and the beautiful eggs or the queer, cringing little creatures in the nests. The nests and their contents should be as

sacred as the cradle of a baby. Indeed, a bird's nest is or soon will be the cradle of several babies, the babies of the bird-world.

The cry "Hands off," uttered by the parent-birds as they flutter about in sore distress when frightened from their nests, should be heeded by everyone. Could young people and all people be induced to hear and respect that plaintive cry, what numberless birds would be spared to cheer and help us in our struggle with plant and tree pests.

The nests of most birds serve but one purpose—they are the temporary homes of the birds while they are hatching and raising their young. At the longest, this period is but a few weeks; while, with those species that can run about soon after they are hatched, the nest is deserted within a day or two after incubation ends. Such birds are covered at first with a thick down which is soon replaced by a coat of feathers. Most kinds of birds are weak and naked when they come out of the shell and require from two to four weeks of careful brooding and feeding to develop a covering of feathers and gain strength to walk and fly. During this time the parent-birds are constantly engaged in bringing food to their young or in hovering over and guarding them from cold and danger.

After the young birds have once left the nest, they seldom return to it again. They then spend the day in searching for food, and roost in trees or rest upon the ground or float upon the waters at night. The old birds generally remain with their young only long enough to teach them to care for themselves, after which parents and children separate. Some species like the Quail keep their brood with them until the following spring before they finally leave them.

When deserted, the nests of many birds soon fall to pieces, or they are torn down by the storms of autumn and winter. This, however, is not the case with the nests that require much

time and labor in building, like those of the Woodpeckers and Kingfishers. These nests are so well protected by their location that they remain in good order and attract the same birds or others to them for several years in succession. There are some birds that prefer to repair and occupy the deserted nests of other birds instead of building new ones for themselves. Bluebirds and some of the Owls often do this, the former taking empty Woodpeckers' holes, and the latter using last year's nests of Crows and Hawks.

The substances from which nests are constructed are many; but every species of bird adheres quite closely to some group of materials unless it is compelled to vary from them for lack of supply. The most common materials used are sticks, twigs, rootlets, chips, bark, leaves, hay, grass, stubble, rushes, moss, lichens, clay, cloth, paper, string, feathers, down and hair. The presence of one or more of these substances in large quantities often reveals the species of the builder. Who would not recognize the Robin's nest with its thick walls of mud, or the Chippy's nest so thoroughly lined with hair, or the English Sparrow's nest, that great mass of ragtags? But the nests of many birds are so similar in materials and manner of construction that they cannot be identified unless the birds which occupy them are seen also. There are some birds like the Nighthawks that make no nests, but use a flat surface or a slight depression to hold their eggs.

Birds seem to aim at two things in nest-building: first, to make their nests secure, and second, to hide them from their enemies. They often fail in both particulars and the accidents and tragedies that result are numberless. No Robin has the wisdom to foresee that a prolonged summer-storm may dissolve and wreck its nest when it is placed in the open, nor has the Hummingbird the skill to deceive that highway robber of the birds, the Red Squirrel.

The time spent in building a nest varies from two days to two weeks according to the nature and location of the nest and the urgency of the female to deposit her eggs. Woodpeckers and Kingfishers and Bank Swallows need the longest time because of the difficulty of their task, while Robins and Hens make quick work of nest-building. After the nest is finished, an egg is laid every day or every other day until the clutch is complete. Immediately, the incubation by one or both birds begins; and it continues night and day until the eggs have been hatched. The period of incubation varies from ten days to four weeks according to the size of the bird; but for most of the small birds it is fourteen days.

The number of eggs laid ranges from two to twenty varying with the species. Many birds raise two and some three broods in a season. The earliest nesting is begun in February by the Hawks and the Owls and the latest by the Goldfinches and the Cedar Birds in July and August.

ENEMIES OF THE BIRDS

We have been led to believe that the life of the bird is happy and free. That idea needs some revision and decided modification before it is accepted. All of the time devoted to nest-building, incubation and the rearing of the young is filled with hard labor, solicitous care and threatening danger to the birds. In nest-building, proper materials must be sought out and carried long distances before they are available for use. When the construction of the nest is complete, the strain of incubation follows. Soon the open mouths of the young keep the parent-birds busy from daylight to dark for several weeks in the effort to fill them. While these labors are being performed the parent-birds and their young are constantly surrounded by a swarm of persistent and subtle enemies who never throughout the entire season cease from their attempts to kill and devour.

The worst enemy of the birds is man. He who ought to be their best friend and stoutest defender has always slaughtered them without mercy. As reckless sportsman or thoughtless boy, he goes out to hunt. Failing to find game, the gun is often turned upon the song birds and one or more lie dead at his feet. Lacking the gun, the boy throws stones at the birds, often too well aimed, and a bird falls lifeless to the ground. Both man and boy are unmindful of the fact that the death of one bird may mean the starvation of a half-dozen baby-birds in a neighboring nest.

Fashion comes next in killing birds. The craze among milliners for novelty and profit has destroyed millions of song-birds. When profits are at stake, it is easy to understand how sympathy and kindness may be set aside; but how women and

girls who are ready to weep over the misery of a wounded bird can be induced to wear hats ornamented with stuffed birds or the feathers of birds deliberately slaughtered for decorative purposes is a problem not so easy of solution. Many of the states have properly passed laws for the punishment of those who have in their possession the skins and feathers of any song bird or other protected bird.

Less blame can attach to domestic and wild creatures that pursue and destroy the birds. They are moved to do it by instinct and hunger. Prominent among these are the red squirrels. In the spring, they are very fond of birds' eggs and destroy many of the helpless young in the nest. To avoid a battle, they usually rob the nest when the parent-birds are absent seeking food. As red squirrels have no value whatever, they should be shot for the mischief they do to the birds. One cannot have both birds and red squirrels in abundance about the premises.

Cats have long held a high place as family pets. They also have some value for killing rats and mice, but they are among the worst enemies of the birds. Especially is this true of the vagrant kind that live mainly upon what they can capture for themselves. Such cats hunt as regularly for birds as for vermin. They should be exterminated. If household cats acquire a liking for bird-flesh, pets though they may be, they should be put where there are no birds for them to get.

Some kinds of Hawks and Owls and also the Crows and the Jays live in part upon other birds, their eggs and their young. There is no way of determining the amount of mischief which is done by them. While it is considerable, it has doubtless been much overestimated. These birds are often charged with offenses that should be laid against skunks, weasels, rats and snakes, for every one of these is guilty of

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THE CHICKADEE, OR BLACK-CAPPED TITMOUSE

Head and throat black; cheeks white; back drab; rump yellowish; under parts yellowish-white; wings and tail edged with white. Length, five inches.

Nest made of moss, hair, wool and feathers and located in a cavity of a stump or a tree. Sometimes the deserted nest of a Downy Woodpecker is used. Eggs, five to eight, specked with brownish-red, .60 x .50 inches.

This bird remains all the year in the Northern States and in summer it ranges as far north as the Arctic Circle. It is more abundant here in winter than in summer because the birds from the far north return to this latitude to winter. Being well covered with loose downy feathers, it does not suffer from the coldest weather. Its cheerfulness under all conditions is unbounded. Amidst sunshine or storm its happy song of *Chick-a-dee-dee-dee* may be heard ringing out.

Though fond of several kinds of food, its principal diet consists of the eggs and larvae of destructive insects found on trees. Carefully it inspects bark and leaves, running up or down the trunk equally well and often performing wonderful acrobatic feats in its prying search for something to eat. If it were working for wages, it could not be more painstaking in its helpfulness. One Chickadee destroys myriads of eggs and insects in a year, thus rendering great service to man.

Formerly the Chickadees were common in city parks and on lawns, but now they are found mainly in the woods. Doubtless the increase of tree-pests in cities is largely due to the

CHICKADEE.
Life-size.

absence of these birds which have been driven away by those pugnacious bullies, the English Sparrows.

Because of its social nature, the Chickadee is on familiar terms with several other birds which have similar habits and enjoy the same kind of food. Often Chickadees, Nuthatches and Creepers roam through the woods in a common flock feeding and chattering happily as they go. Because the Chickadee has little fear and great curiosity, you may lead it to approach within a few feet of you by imitating its song. In severe winter weather when food is scarce, it will come to the door to glean the crumbs thrown out to it. This gentle, active, helpful little bird deserves the kindest treatment from us.

THE AMERICAN CROW

MALE AND FEMALE—All black with steel gray or purple reflections. Length, sixteen to eighteen inches. Range throughout North America from Hudson Bay to Gulf of Mexico. Migrations in March and October but many of the birds remain in this latitude throughout the entire year.

The nest is built in trees and about thirty feet up from the ground. It is bulky, being made of sticks and lined with leaves, grasses and mosses. Eggs, four to six, generally bluish-green, sometimes white, marked with brown, 2.00 x 1.50 inches.

Although this is one of our best known birds, he has few friends among birds or men. Nearly all of the smaller birds fear him and dread his approach, while every farmer hates him intensely. This bird delights in eating the eggs and the young of smaller birds, but the one thing for which he is most disliked is his love for corn. As soon as the slender shoots of this grain appear an inch or two above the earth, the crow pulls up the tender plants that he may eat the kernels at the root. If the damage done by them were not so great, it would be amusing to watch a flock of these birds, as with stately step they follow the rows of corn, stopping at every hill only long enough to jerk up the gleaming blades. Day after day, this destruction goes on until the plant has become too large for them to destroy.

The farmer often tries to shoot these thieves but he rarely succeeds; for they are wise enough to leave one of their number in the top of a nearby tree to watch for his approach. Two or three loud cries of *caw, caw, caw* from the watchman

CROW.
½ Life-size.

start a whole flock away to the nearest woods where they remain until their enemy disappears. Then back they come again to their feast. The farmer tries to keep the Crows away from his fields by means of scarecrows which are made by stuffing suits of old clothes with hay, until they resemble human forms. When set up about the cornfields, these dummies frighten the Crows. Because of their ability to keep out of the way of hunters, the number of Crows does not decrease.

They eat large numbers of snakes, mice, worms, harmful beetles and grasshoppers. As they are fond of flesh they become helpful scavengers on the farm, quickly removing offensive dead animals from sight. A flock of them will soon pick all the flesh from the bones of a dead horse or cow.

Crows live together in great flocks often numbering scores or hundreds. When these multitudes are nesting, their cawing may be heard a mile away. If young ones are caught and caged they soon become tame and live about the yard like chickens. In some cases they have been educated to talk like Parrots. A smaller kind than the common crow, called the Fish Crow, lives along the sea coast in our country and feeds upon fish and other sea food.

BIRD NOTES

ENGLISH SPARROW

MALE—Top of head gray bordered with chestnut; hind neck chestnut; back black and chestnut mixed; wings reddish-brown with white bar; tail dark above and ashy below; middle of the throat and center of the breast black; sides of the throat ashy; under parts ashy. FEMALE—Head and rump brown; back streaked with yellow and black; breast grayish-brown; belly light gray. Length, six and one-third inches.

These birds were not known in this country until 1851, when several pairs were brought from England and set at liberty in New York City. From that beginning, they have increased and spread over the whole country. In fifty years they have become more numerous than any other species of birds in America. Wheat, rye and oats are their special delight.

When these Sparrows were brought here, it was believed that they would destroy the eggs of caterpillars which injure shade trees, but they do not care much for such food. So far as known, these birds are of little use to man. Many people think that they are a nuisance. They are abundant in all the cities and towns and they are now rapidly spreading to the country districts to the alarm of the agriculturists. Being born fighters, they fight among themselves when they have nothing else to attack. The gentler song-birds fear them and they are driven away from the cities by them. This is one reason for the increase of insect pests on our shade trees in cities. It was a great mistake to bring them to America.

Their nests are built on window ledges, under sheds, in cornices of houses, in trees, in fact, anywhere that affords a

ENGLISH SPARROW.
Life-size.

lodgment for them. Hay, straw, strings, feathers and any other materials that can be found or stolen from other birds' nests are worked into theirs. They lay four to six eggs and hatch three or four broods a year. Thus they multiply rapidly and seem destined to possess the earth. They are as tame as hens and move aside only far enough to avoid being stepped on or run over in the streets. They have no song and utter only a squeaky, chirping sound. Eggs, generally white, specked with olive, .85 x .60 inches.

At night they gather in large numbers in trees and vines about the house and carry on noisy meetings until a late hour. Only one thing can be said in their favor. They remain with us during the winter when most other birds have gone to warmer climes, but that is a small compensation for the mischief which they do.

BIRD NOTES

RUFFED GROUSE, OR PARTRIDGE

Tufts on neck long and black; head, back, wings and tail reddish-brown, buff and gray with black band near end of tail; throat and breast buff; remaining under parts mixed black, white and buff. Female similar but with smaller neck tufts. Length, seventeen inches. Nest, on the ground in the woods, made of leaves and moss. Eggs, ten to eighteen, cream color, 1.50 x 1.10 inches.

These fine game birds are found in the woods throughout the United States and Canada. They are permanent residents and before game laws were enforced they were hunted during every month of the year. Now, however, they may be shot in the fall for a few weeks only. This plan protects the species and prevents their complete destruction.

The Grouse spend much time upon the ground searching for food. When frightened they rise with a loud whirring sound of the wings and fly away many rods. If they are started by a hunter's dog, they perch in trees overhead and fall an easy prey to the gun. Many are killed and sold in the city markets during the open season.

Their food in winter consists of acorns, seeds and the buds of trees; but in summer they live principally upon wild berries. Being fond of grapes, they sometimes wander to the fields in search of them; but a dense forest, especially one containing small evergreens, is their preferred home.

The drumming of the male is a striking trait of this bird. Early in the morning or late in the afternoon, he will perch on an old log or rock in the woods and beat a resounding tattoo with his wings. This is done by striking his sides with his

RUFFED GROUSE
⅛ Life-size

wings, producing a noise like the roll of distant thunder. On a quiet day this sound may be heard a half mile. He does this to call his mate and soon the female comes flying through the woods to meet him.

The nest is a soft cushion of leaves and moss, and when filled with eggs, closely resembles a hen's nest. It is difficult to find because the bird covers it with leaves when she goes away from it. The young can run about as soon as they are hatched and when ten days old they begin to fly.

If you come suddenly upon a mother bird and her little ones, she will sound an alarm note to them and then flutter and limp away as though her wing or leg were broken. Follow her a short distance and she will rise and sail off with perfect ease. Turn now to find her chicks and they are nowhere to be seen. At their mother's signal they squatted on the ground or dived under the leaves out of sight. They are so near the color of dead leaves that they can rarely be found. Instead of trying to find them, hide yourself and await the return of the mother. Soon a few call notes from her will unite the family and, as they move away together, you are glad that you did not capture one of those little fluffy balls of yellow.

BIRD NOTES

RED-TAILED HAWK, OR HEN HAWK

Upper parts dull brown streaked with reddish-buff and light gray; lower parts tawny-white streaked with brown; outer wing-feathers notched; tail chestnut above and gray beneath, having a band of black near the end and tipped with white; beak powerful and hooked; legs yellow. Length, twenty inches. The female is similar and two inches larger than the male.

Nest, bulky, in a tree, thirty to a hundred feet from the ground, made of sticks lined with grass and feathers. Eggs, two to four, bluish-white blotched with reddish-brown; 2.30 x 1.80 inches. The young are often hatched in March. It is a permanent resident.

Twenty species of Hawks are found in the United States, several of which, including the Red-tailed, are of great size. When we have learned the habits of one kind, we shall know much about all of them for their characteristics are quite similar. They belong to the birds of prey.

They live upon mice and other rodents, small birds, frogs, reptiles and insects. Two varieties, the Sharp-shinned and Cooper's Hawk, are quite destructive to poultry, and because of this the farmers are ready to kill every species of Hawk found on their farms. To them a Hawk is a Hawk and, therefore, a chicken thief. In many homes the loaded gun hangs in the kitchen ever ready for use if a Hawk sails over the premises.

This treatment of Hawks is a fatal mistake, for as a class they are of great benefit to the agriculturists. The United States Department of Agriculture estimates that every Hawk destroys a thousand mice or their equivalent in insects annually,

RED-TAILED HAWK.
⅓ Life-size.

and that each mouse or its equivalent would cause the farmer a loss of two cents per year. This gives a value of $20 for the yearly services of every Hawk. Fortunately Hawks are now protected by law in many states including New York.

The Red-tailed Hawk is sometimes guilty of taking poultry. Out of 562 stomachs of this species examined by the Government, only 54 contained poultry or game birds while 409 contained mice and other mammals. This dignified bird may be seen in the country on a fair day, high in the sky, circling slowly and gracefully over fields and woods, evidently enjoying its lofty flight while watching sharply for some dainty morsel of food below.

The power of a Hawk's vision is marvelous. Our Hawk will discover a small bird, a mouse or a frog when hundreds of feet above it. Suddenly it swoops down to the ground and seizing its prey in its talons, it flies away to some tree to devour it. The long sharp claws of the Hawk have a firm grip and when they have once closed upon a victim, there is little chance for it to escape. The beak, short, stout, and hooked soon puts an end to any remaining life in the captive and the torn flesh is gulped down greedily or fed to the young in the nest. Should the creature caught be a rabbit or other animal sufficient for a full meal, the Hawk may sit quietly and stupidly on a limb for hours during the process of digestion. At such a time the bird is often approached and shot.

If wounded and captured, this Hawk like all others will throw itself on its back and, while uttering a hissing sound, fight with wing, beak and claw in a manner that makes approach dangerous. Its cry is a shrill *k-shee-o, k-shee-o, k-shee-o* always uttered when the bird is flying.

DOWNY WOODPECKER

MALE—The top of the head, the back of the neck, the cheeks, the sides of the back, the wings and the middle tail-feathers black; a white stripe over the eye and another under the eye running up the side of the neck; middle of the back white and the wings spotted with white; outer tail-feathers white barred with black; under parts grayish-white; a scarlet band on the hind head; tail sharp. The female is similar but lacks the scarlet on the head. Length, six and three-fourths inches. Eggs, white, four to six, .75 x .60 inches.

Like all the other Woodpeckers, the Downy generally nests in dead trees, rarely in live ones. He pecks out a hole twelve to twenty inches deep in the trunk or in a large limb of a tree, enlarging the passage as he goes down. On the chips that fall inside, the eggs are laid and the little ones hatched. The bed may be a hard one but it is safe from the prying eyes and sharp talons of the Owls, Hawks, Crows and Jays, those natural enemies of the small birds. In this hole or in a similar one, our Woodpecker makes his home during both summer and winter. Many birds roost at night in the branches of the trees, but this is not true of Woodpeckers. They are always safe at night from storms and enemies in their snug bedrooms. This manner of nesting helps to protect the species from destruction.

The Downy is the smallest of all the Woodpeckers. However, he makes up in strength and activity what he lacks in size. There are few birds in the North more helpful to man than this one. While many others work hard for us from dawn to darkness during the summer time, this little keeper

DOWNY WOODPECKER.
Life-size

of the trees works throughout the entire year and takes no holidays. He is always searching for the tree-destroying borers, ants and caterpillars. Clinging to the trunk with his peculiar feet and braced with his stiff tail, he hammers away with a vigor that must startle the grubs within. Quickly overtaking them with his hammer and chisel and spearing them with his barbed tongue, he makes but a single bite of the largest of them.

The Downy Woodpecker is the tamest member of his family, coming daily into the trees of the lawns and the orchards for food. He is little disturbed by your approach and seldom flies farther away than the next tree when he is compelled to move. In the midst of his searching, he often utters a cheerful *chick, chick* that seems to indicate his certainty of success. In the winter he is on good terms with Nuthatches and Chickadees, roaming the woods with them during the day in search of food, and often taking them home with him at night to sleep.

He is easily distinguished from his cousin, the Hairy Woodpecker whose coloring is almost exactly the same, but whose size is about one and a half times as great. Two other points of difference are also noticeable,—the plumage on the back of the Hairy Woodpecker is so blended as to give the appearance of hairs rather than of feathers, and the outer tail-feathers of the Hairy are clear white while those of the Downy are white barred with black. He also keeps to the woods more than the Downy, but in food and all other habits he closely resembles him.

Because the Downy Woodpeckers are so often seen in the orchards, some farmers are suspicious of them and kill them or drive them away, thinking they are after the fruit. All Woodpeckers are innocent of any offense in that respect. They would rather have one grub than a bushel of fruit.

SCREECH OWL

This bird may be one of two colors, brownish-gray or brownish-red; above, somewhat darker color mixed with blackish; ear tufts an inch long suggesting horns; wings and tail barred; underparts white streaked with black; legs covered with feathers. Length, eight to ten inches. Nest, in a hollow stump or tree and composed of a few feathers or leaves. Eggs, four to six, round and white, 1.30 x 1.40 inches.

This little Owl is only one of twenty species found in our country. It is common throughout the Northern States and remains with us summer and winter. During the day, it retires to thick woods or hides in barns and hollow trees. This is due to the fact that the eye of this Owl is so constructed that it can see well only in the night.

Screech Owls live upon smaller birds, animals and insects. These they hunt by night. The small birds appear to know that these enemies can do them no harm in the day time, and they seek revenge upon them. With war cries well known among birds, they soon gather a motley flock of many species to attack one of their hated enemies when it is discovered blinking helplessly in the daylight. Blackbirds, Sparrows and even the gentle Robins join in the warfare. Dazed, stunned and frightened by the assaults, the Owl flies away to some thicket for safety while its tormentors chatter and scream with delight at its defeat and flight. Possibly the Owl consoles itself with the thought that it will be even with its tormentors before midnight.

The Screech Owl is oftenest seen in late autumn or winter when the scarcity of food drives it near our dwellings in search

SCREECH OWL.
⅗ Life-size.

of mice, rats and sparrows. Recently one took up its abode in the attic of our school where it remained during January and February, living no doubt upon the noisy Sparrows about the building. Another entered the building by an open window and, being caught and caged, it became the pet of the school for several weeks.

The cry of this Owl is not a screech as the name would indicate, but rather a quivering wail not unlike the whine of a lonesome dog. It sounds like *ho, ho, ho, ho, ho, ho,* beginning high and trilling down the scale in a depressing moan. One of our poets says that to him the cry is, *"Oh-o-o-o-o-, that-I-never-had-been-bor-r-rn!"* It is a startling sound when heard in the deep woods at night.

BLUE JAY

Upper parts purplish-blue; lower parts purplish-gray; wings and tail bright blue with black bars; tail feathers tipped with white; head crested. Length, twelve inches. Nest, in evergreens about twenty feet from the ground, made of twigs and fine roots. Eggs, four to six, 1.15 x .85 inches, of greenish-drab color and specked with brown.

This interesting bird may be found throughout the entire year everywhere in the United States east of the Rocky Mountains. He lives in the thick woods, but he often comes into the open fields, the orchards and near dwellings in search of food. He is a gay and handsome fellow wherever you meet him. When he discovers you, he assumes a proud and angry air of conceit and defiance.

Acorns, chestnuts, corn and fruits are his delight. In the fall, he stores away these things in knot-holes and other places. In the winter, forgetting where he has put his supplies, he is sometimes driven to live for a time upon carrion. If he stopped here he might still have a fair reputation among birds; but sad to relate, he eats the eggs of other birds and even devours their young also. This conduct has brought upon him the dislike of the small birds which often combine to drive away the robber when he attempts to attack their nests. Although he is usually a haughty and saucy bird, yet when the real test of courage comes, he sneaks off to avoid a fight. The little Kingbird dislikes him thoroughly and often thrashes him soundly.

Doubtless the Blue Jay has helped to name himself, as his most common utterance is a long drawn *jay, jay, jay.* This

AMERICAN BLUE-JAY.
$\frac{3}{4}$ Life-size.

cry, with the bright blue color of the bird, has given him his name. While the Jay sings no song, he is able to imitate the calls of other birds by which means he often attracts them to him. He likes to tease and torment the Owl and especially the little Sparrow Hawk. This is done by imitating the cry of a wounded bird, which draws the Hawk near. Then several Jays will dart at the Hawk, squealing and frolicking about it with great delight. Sometimes this play ends in a tragedy, for the Hawk pounces upon one of them to the dismay of all the others. Jays may be caged and tamed like Crows, and some writers say they can be taught to utter words.

BIRD NOTES

GREAT HORNED OWL, OR HOOT OWL

Male and female alike but the latter is the larger. Upper parts tawny, overlaid with a mottling of black and white; the same mottling in broken bars on wings and tail; ear-tufts two inches long, black and tawny; white collar on throat; under parts white tinged with tawny and barred crosswise with blackish; face tawny; black border around facial disk; bill and claws black; eyes yellow with black mark over them. Length, twenty-three inches.

This is one of the largest Owls in our country and in strength and courage it is unequaled by any other. It is a permanent resident in all Eastern North America. It breeds in the late winter and early spring, making its nest in hollow trees or appropriating the deserted nest of a Hawk or a Crow. Eggs, two to three, white, 2.10 x 1.90 inches. The period of incubation is three weeks.

By some the Great Horned Owl is called the Hoot Owl because it often utters a deep-toned cry or hoot at night which sounds like *how O! how O! hoo-hoo-hoo-hoo!* It preys upon other birds, troublesome rodents and poultry. Its great strength enables it to carry off full-grown rabbits. Often it will destroy more than it can consume, eating off the head only and leaving the body untouched. This would be a praiseworthy habit if this Owl confined itself entirely to the pests of agriculture, but when it treats the farmer's fowls in the same way, he naturally objects.

Yet with its bad habits, this bird is not to be cast out as altogether unworthy of respect. Although it ranks as the most destructive of all the Owls, we should remember that it is

GREAT HORNED OWL.
-size.

more active in working for man's interests than it is in working against them; for the facts prove that only a small part of its diet is obtained in the poultry yard. It is hated intensely without just cause.

The farmer cheerfully pays the hired man in the fall for his work on the farm, mistakes included, and re-engages him again for the next season, often at a higher wage. Is it fair for that same farmer to begrudge a taste of chicken to an Owl, now and then, and lay it low with a shot-gun after it has worked for him faithfully for three hundred and sixty-five days and saved him many dollars by keeping down the mice, rats, squirrels and rabbits that always prey upon his products?

Hear what the Biological Survey of the Department of Agriculture of the United States says of this bird. "If the more thickly settled districts where poultry is extensively raised could be passed by and the bird considered only as it appears in the great West, it would earn a secure place among the beneficial species, for it is an important ally of the ranchman in fighting the hordes of ground squirrels, gophers, prairie dogs, rabbits and other rodents which infest his fields and ranges. Where mammals are plenty it does not seem to attack poultry or game birds to any considerable extent, but in regions where rabbits and squirrels are scarce it frequently makes inroads on fowls, especially where they roost in trees. Undoubtedly rabbits are its favorite food, though in some places the common rat is killed in great numbers. We have a record of the remains of over one hundred rats that were found under one nest." If so much can be said in favor of the worst member of the Owl family, should not the others have a good standing with the agriculturist?

JUNCO, OR SNOWBIRD

Upper parts, neck, wings and breast slate-color tinged with brown; belly white with dark color on sides; tail dark with outer feathers white. Length, six and one-fourth inches.

Nest, of coarse grass mixed with rootlets and lined with feathers, moss or hair, usually on the ground but occasionally in low bushes. Eggs, four to five, dull white or tinted blue and having reddish-brown spots, .75 x .60 inches.

These common, hardy birds come down from Canada into the United States in October in large numbers to spend the winter. The most of them pass on to the Southern States, yet numbers from the extreme north find the climate of the Northern States none too severe for them and there they remain until May. Like the brave little Chickadees with which they sometime associate, they enjoy a snowstorm and whirl about in it with delight.

Out in the open fields on the coldest days of winter one may come upon flocks of Snowbirds hopping about, if the ground is bare, picking up grass seeds which have been scattered by the wind. If the earth is covered with snow, they will be seen clinging to the lifeless stalks of last summer's weeds while pecking at the seed-pods for food. As they flit away to the nearest bushes, they appear to be as plump and vigorous as any other bird is in midsummer.

If the ground is too deeply buried in snow, hunger often forces them to leave their usual haunts to obtain food. Then they may enter the farmer's barnyard to feed upon the waste grain to be found there. They have the strong, short bill of the Sparrow family. This classes them among the seed eaters;

SLATE COLORED JUNCO.
Life-size.

yet in summer they destroy quantities of insects which they feed to their young.

In the spring they go north to Canada or seek the summits of the Alleghanies for their nesting places. The note of these birds when disturbed is *tsip, tsip,* which may be followed by a low, soft song when their fear has passed off.

Though severely plain in appearance, they are very interesting birds for they come to enliven the winter time when most of the other birds have gone far south. Their gentle, cheery ways help to make them favorite visitors.

BIRD NOTES

BROWN CREEPER

Mixed brown, white and buff above; wings with a bar o buff-white; tail pale brown, the feathers sharply pointed; dul white beneath; a long slender bill much curved. Length, fiv and one-half inches.

Nest, made of twigs, shreds of bark and moss, in th woods, placed behind a strip of loose bark on a half-dead tree Eggs, four to eight, white spotted with reddish-brown, mainly at the larger end, .60 x .50 inches.

The Brown Creeper is an industrious protector of th trees. Every kind of egg and insect found in the crevices o tree-bark is sought out and eaten by this little bird. Watcl one of them as it starts at the foot of a tree and winds its way patiently up the trunk to the top, searching out hidden food a it goes. Suddenly it loosens its hold and drops to the ground only to begin the inspection of another tree in the same man ner. Thus it works on hour after hour of every day, summe and winter. So earnest is it in this search that you may pas within a few feet of it unnoticed.

The cool climate of Canada attracts the majority of thes birds in summer. There they build their nests and raise thei young. Some never go beyond the northern part of the Unitec States for nesting, and others are found raising their young far south in the uplands of the Alleghanies.

Many birds able to endure the cold of a northern winte are compelled to seek a warmer climate to obtain their natura foods during that period. This is not true of the Brown Creepers for their food is never buried under the snow Creepers summering in Canada come down to the Northern

BROWN CREEPER.
Life-size.

States to spend the winter, while those which have not been so far north in summer move only a little southward in the fall. They are most abundant with us during their spring and fall migrations.

BIRD NOTES

QUAIL, OR BOB-WHITE.

The prevailing color of the Quail is a reddish-brown sometimes streaked with black or gray; white beneath, crossed with lines of black; throat of the female brownish-yellow and of the male white; white line through the eye. Length, ten inches.

They build their nests on the ground in a tuft of grass or at the base of a hill of corn. The nest, made of grasses, contains from ten to eighteen eggs about 1.00 x 1.20 inches. As soon as the birds are hatched they are able to run about and follow their mother in search of food. Seeds and grain are eaten, but insects are the preferred diet. In keeping down insect pests there are few birds that equal them. Only one family is raised by a pair each year. This family is called a bevy or covey.

These birds remain all the year round with us. In summer they live in the open fields and in winter they retire to thickets of low bushes. Sometimes in winter a straw stack attracts them and a whole family may live about it for several weeks. If treated kindly, they will become quite fearless, even entering the farmyard to eat grain with the farmer's domestic fowls. Indeed, they belong to the same family as the hen and they therefore may be called her cousins.

Quails do not sing, but in the springtime the male bird utters a peculiar love call to his mate which sounds like, *ah, Bob-White*. From this call he has been nick-named. It is often to be heard resounding from field to field from several pairs that may be scattered over a farm.

Quails roost upon the ground at night in a peculiar manner. Every member of a bevy backs into position to rest,

BOB WHITE.

thus bringing the tails of all together, while their heads stand outward in a circle. This arrangement permits every bird to fly freely and escape easily if they are disturbed. When they rise to fly the whirring sound made by their wings startles a person like the firing of a gun. The bevy remains together until spring when the members separate to begin life in pairs.

They are called "game birds" because they are good for food. Years ago they were abundant, but the hunters destroyed so many of them that they became very scarce. After strict game laws were passed, forbidding anyone to kill them out of season, they began to increase again. Now if you spend a day in the country during the summer, you may hear their call in the fields as of old.

BIRD NOTES

HERRING GULL

The back and wings pearl gray; wings tipped with black; under parts white; bill yellow; legs and feet flesh color. Length, twenty-four inches. The immature birds are mixed brownish-gray and dull white; wings dusky white; tail gray; bill black. They require about four years to come to the full plumage of the parent birds.

The nest, located on the ground or bare rocks along the shores of lakes and rivers, is composed of grass, sea weed, moss and sticks. It is loosely made and generally placed in an exposed position. Eggs, three, greenish-buff scrawled with brown, 2.85 x 1.95 inches.

This Gull is common along the Atlantic coast wintering as far north as New York. It also frequents inland waters, being abundant on the Great Lakes and along Niagara River in both summer and winter. If undisturbed, it enters harbors and swims about among the shipping in search of food. It devours the refuse thrown overboard from vessels and frequently follows them long distances to gain food. It also eats fish, plunging into the water to capture them.

Some people use the eggs of these Gulls for food and rob their nests repeatedly for that purpose. If robbed for several years in succession, the birds desert their usual nesting places and build their nests in trees, thus adapting their habits to necessity.

While they often soar to great heights, they usually fly low and frequently alight on the water. When resting on the waves they may be heard to utter a loud *che-ah* which is sometimes followed by a hoarse *hunk, hunk*.

AMERICAN HERRING GULL.
⅛ Life-size.

Their great size and spotless color place them among our most beautiful birds. As they are helpful as scavengers and harmless in all their habits, they deserve protection from thoughtless and reckless hunters. Fortunately laws have been enacted by several of the states protecting them from destruction.

BIRD NOTES

THE AMERICAN GOLDFINCH, THISTLE BIRD, OR WILD CANARY

In summer, the body is bright yellow; crown black; wings black, some feathers of wings edged with white; tail black; bill and feet flesh color. In the fall the male loses the yellow color and becomes brownish-olive like the female. Length, five inches.

The nesting season is delayed until late in July to make sure of an abundance of seed-food for the birdlings. Nests filled with the young are sometimes found as late as September first. The nest is made of grasses, strips of bark and moss, and well-lined with thistle down. It is in bushes, five to ten feet up. Three to six pale, bluish-white eggs are laid, .65 x .50 inches.

While some of these birds go south to winter, others remain in the Northern States throughout the year. Doubtless their movements are determined more by the supply of food than by any other cause. When the deep snows of a Northern winter cover the stems of the seed-bearing plants, these birds must move elsewhere or starve; hence they often migrate to the South in midwinter.

They are joyous, happy creatures living mainly in the fields in flocks except when nesting. Their food consists of the seeds of wild plants and of these they like the thistle seeds best of all. In the summer, a patch of thistles is certain to be ornamented with a flock of these beautiful birds. Alighting on the stems of the plant, they pull out the winged seeds and devour them greedily. If you go too close to them, they flit away to the nearest bushes and wait until you have gone before they return.

GOLDFINCH.
7/8 Life-size.

Unlike most birds, Goldfinches sing as they fly, saying, *per-chic-o-re, per-chic-o-re.* This song when once heard can not be forgotten. The wave-like motion of their flight also enables one to recognize the birds when they are so far away that their colors can not be seen. Their migrations are in May and October. They are true friends of the farmer, for they prevent the spread of troublesome weeds by eating quantities of the seeds before they are scattered on the ground.

BIRD NOTES

WHITE-BREASTED NUTHATCH

Top of the head and hind neck black; the other parts above bluish-gray; wings bluish-gray marked with black and tipped with white; outer tail-feathers black marked with white near the end; remaining tail-feathers bluish-gray; under parts and sides of the head white; belly tinged with red; bill long and sharp; body broad across the wings. Female similar to the male. Length, five and three-fourths inches.

Nest, in the woods, located in a cavity pecked out of a dead tree by the birds, and composed of leaves, feathers, grass and hair. Eggs, four to eight, white, spotted with reddish-brown and lilac, .75 x .55 inches.

This Nuthatch is resident with us all the year. In the summer time and especially during the nesting period it stays in the woods with its own kind, but in winter when sleety storms have covered the tree trunks with a coating of ice, it may come into the orchards and gardens in search of food. Being strictly insectivorous, it never eats anything but grubs, insects and their eggs which it gleans from the bark of trees. With great painstaking it explores the trunks of trees, going up and down them in a zigzag course while clinging firmly to the bark.

Often in winter Nuthatches are found in company with Chickadees and Downy Woodpeckers roaming through the woods in search of food. Perhaps these birds feel the loneliness of the season due to the absence of most other birds and, like people, they come together for companionship. At any rate, they chatter away in bird language much after the manner of people at an evening party. Doubtless, birds are able to under-

WHITE-BREASTED NUTHATCH.
Life-size

stand one another, for they have varying notes to indicate joy, fear, love, anger and pain which are all well known to observers of birds. Surely the birds must be able to interpret the speech of their own kind.

There are few birds more sociable than Nuthatches for they are seldom long quiet. Even when separated by several intervening trees, a pair of them maintain a constant flow of small talk. Their most common note is *yank, yank, yank,* uttered in a hoarse gutteral tone varied in the mating season with *tsink, tsink, tsink* and *"hah-hah-hah",* a sort of artificial laugh.

Few birds are more familiar to the woodsman in winter than the Nuthatches. If you go near a flock of them they will pause in their search for food only long enough to have a good look at you. Their curiosity may lead one of them to descend the tree to a point near you, where with head thrust out horizontally like a snake, it seems to be inquiring what you want. After concluding that you are harmless, it turns again picking up food as it goes and zigzags up the tree to its companions to whom it reports in classic *yank, yanks* that the creature below is only a man.

The name Nuthatch describes a habit of this bird. It breaks open or "hatches" chestnuts and acorns to get the worms that may be within. It has not a single bad habit. It is helpful and helpful only, and he who kills one or disturbs its nest is cruel to a valuable servant who is willing to work for him twelve months in the year without any pay.

ROOSTER AND HEN

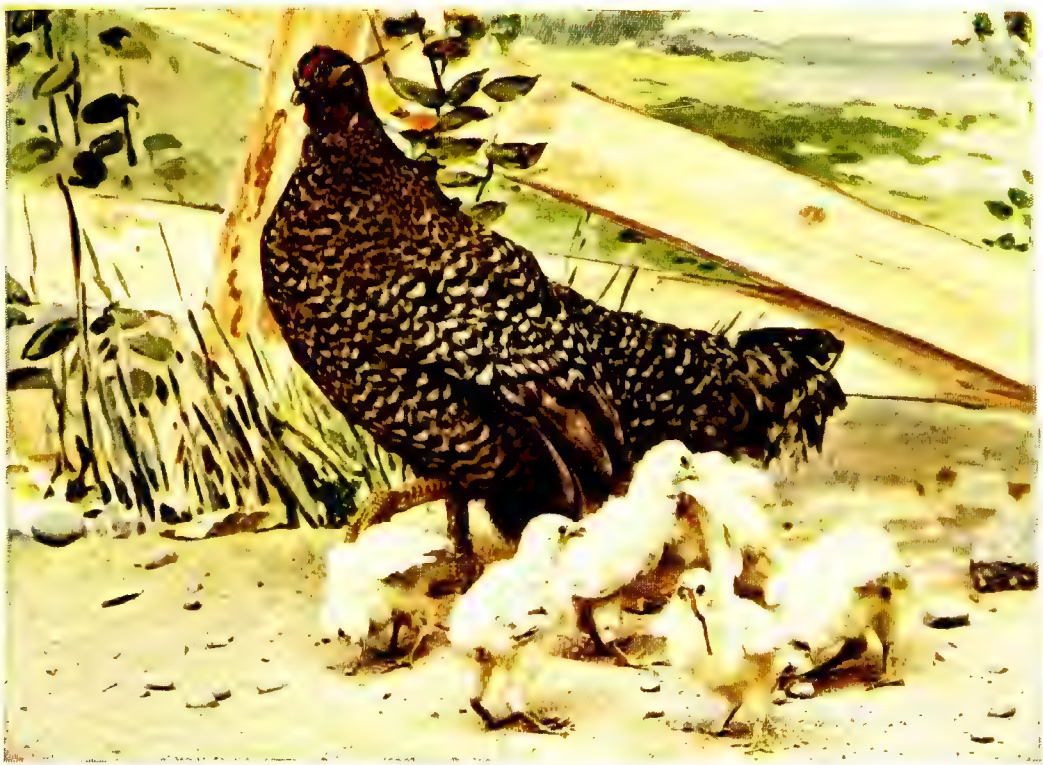
These birds differ so widely in color and size that it is not possible to describe them, if indeed it were necessary. They are so common that everyone knows them at sight.

The nest is built on or above the ground in any secluded place where a supply of hay, straw or leaves my be found. The number of eggs is from twelve to eighteen varying in color from pure white to yellowish-brown. The size is dependent on the species. The period of incubation is twenty-one days.

The ancestors of the domestic fowls were wild species in the jungles of India and Southern China. The date when these birds were tamed and made useful is uncertain. Books written 1000 B. C. refer to cock fighting in those lands at that time. Domesticated birds gradually spread westward and reached Europe about 325 B. C., having been carried there by the army of Alexander the Great after his invasion of Asia.

Their distribution soon became general throughout the continent of Europe; and in the countries about the Mediterranean Sea, many fine species were developed from the Asiatic birds, viz., the Leghorns, Houdans, Hamburgs, Minorcas and Spanish breeds. These varieties are active, good-laying and largely non-sitting, but they are all small birds. They were brought to this country many years ago.

The Brahmas were imported to America from India and the Cochins from China. Both of these kinds are very large fowls but they are poor egg-producers and persistent sitters. Hence it may be seen that the Mediterranean varieties were not entirely satisfactory because they were too small to be of



ROOSTER AND HEN.

BLUEBIRD

MALE—Upper parts, wings and tail bright blue turning to a rusty shade in autumn; throat, breast and sides cinnamon-red; under parts white. Female has duller blue color washed with gray, and a paler breast than the male. Range, North America to Mexico. Winters from Maryland to the West Indies. Length, seven inches. Nest of grasses in hollow trees, rails or bird boxes. Eggs, four to six, bluish-white, .85 x .65 inches.

This beautiful, migratory bird arrives in the North before the Robin, early in March, and remains until November, being one of the last birds to depart for the South. Its bright colors, gentle ways and sweet song make it very attractive. The male comes a few days before the female. As soon as the mate arrives, the hunt for a nesting place begins. The birds may be seen peering into deserted Woodpecker holes, exploring hollow trees in the orchards and running in and out of cavities in fence rails. At last the nest is sure to be placed near man's home, for these birds, like the Robins, love human company.

When a satisfactory hole has been found, grass is carried in to form a nest, and there the eggs are hatched by the mother bird while her mate perched on a branch cheers her with his sweet song of *tru-al-ly, tru-al-ly, tru-al-ly.* Both birds engage in the work of searching for insects to feed their family. Three broods may be raised by the same pair in a summer. The little birds are almost black for many days. The blue color does not appear until the young birds are ready to leave the nest.

Before the English Sparrows were brought to this

BLUEBIRD.
Life-size.

country, the Bluebirds came into the cities and towns and built their nests in bird-boxes placed in trees in the yards. Now, fearing those ugly little fighters, they do not come nearer than the outskirts. There, perched on the fences and telegraph wires, many may still be seen and heard by the dwellers in cities.

BIRD NOTES

AMERICAN ROBIN

MALE—Olive-gray above; head black; throat white streaked with black; bill yellow; feet dark; breast and under parts chestnut-brown; rump light; wings dark brown margined with lighter color; tail black with outer feathers tipped with white. Female, similar but of a little lighter color. The young have breast and under parts spotted with black. Length, ten inches.

The Robin is one of the tamest and friendliest of birds, coming even into the heart of cities and towns in perfect confidence. Everybody loves him. We have fallen into the habit of calling him Robin Redbreast, but that name does not correctly describe him, for his breast is chestnut-brown. The true Redbreast is the Robin of England, a bird which is a third smaller than ours.

Robins are hardy birds and endure very cold weather. Some which have wintered no farther south than Virginia hurry north too early in March and often meet heavy snow storms. At such times they take refuge in barns and thick woods where, if the storm lasts very long, many starve to death. A moderate snow storm does not worry these harbingers of spring, for they can live two or three days on very little food. They are slow in leaving for the Southern States in the fall, often lingering until Thanksgiving time before the last of them depart from this vicinity.

The nest, made of mud and held together with dry grass, is usually located in a tree, from ten to thirty feet above the ground. Beams and ledges in open buildings and porches are sometimes selected as sites for nesting. The nest is about an inch in thickness and always well supported. The work of

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ROBIN.
Life-size.

building it is shared by both birds whose union day of labor is sixteen hours long. The nest building is quickly done under such circumstances. The eggs, three to five, are greenish-blue, 1.00 x .80 inches.

The foundations of a nest were laid on the fire escape of the author's school on Thursday morning, and on the following Monday, it was not only completed but it contained two eggs. Two more eggs were laid on the two following days. Then for the next fourteen days the patient female brooded her eggs. During twenty days after that both birds hurried back and forth several times an hour between that nest and nearby gardens bringing unnumbered worms to their babies. The nest building, the hatching and the feeding were done in the presence of hundreds of children who looked down daily into the nest. When at last, during an intermission, the parent birds coaxed their family to fly to the nearest tree, a thousand throats cheered the young travelers and bade them good-bye.

Possibly the Robins may take a ripe cherry or two from the farmer's trees, but they more than repay the owner by the destruction of many noxious worms and insects. As you watch the old birds bringing food to their children, you wonder where they stow away all of it. Their little mouths are always open at the approach of either parent and their cry for more is almost constant. By a careful test made with a Robin when it was six weeks old, it was found to eat one and two-fifths times its own weight of earth-worms in a day.

In cities and towns as well as in the country, the worst enemies of the Robins are not bad boys but cats which climb the trees and get the little ones or watch and wait until they leave the nest and come to the ground. Then they catch and eat them. If Robins did not raise two broods of young a year, the cats would soon greatly reduce their numbers if they did not destroy the species.

PURPLE GRACKLE, OR CROW BLACKBIRD

MALE—Glossy black all over; iridescent on head and neck; tail long; eyes light yellow; bill and feet black. Length, twelve inches. Female much smaller; plain black and without the luster and changeableness of color of the male.

The nest is large and compact, of mud and coarse grasses, lined with fine grasses and some horse-hair. It is generally built in evergreen trees thirty feet up from the ground. If a tree is large, it may contain several nests, as the birds live in colonies. A quiet park or cemetery containing evergreens attracts them. For several years, a large flock has nested in the cupola of one of the high schools in Buffalo, an unusual occurrence in a large city. Eggs, three to six, bluish-green, blotched with brown or black, 1.15 x .80 inches.

This Grackle is made attractive by its shiny black coat and by the ever-changing colors of purple and violet, green and blue upon its head and neck, as the light strikes it at different angles. Its familiar way of exploring lawns and gardens in city and country for insect food, the peculiar cock to its long tail while in flight, and its hoarse cluck for a song are striking traits of this bird.

The Purple Grackle arrives in March and leaves in November, always traveling in large flocks. Its range is Eastern North America. It is larger than its Red-winged Cousin, being half the size of the Crow which it resembles closely. It is fond of company of its own kind, and it also associates in fall and winter with the other varieties of Blackbirds.

The Crow Blackbird is accused of stealing grain and fruit,

PURPLE GRACKLE
½ Life-size.

and of robbing other birds' nests. The government reports show that thirty per cent. of its food consists of insects injurious to our interests. The stomach-contents show but slight evidence that it eats the eggs or young of other birds. It does take some cherries and berries in their season, but not in large quantities.

The charge that this bird like the Crow pulls up sprouting grain to get the seed to eat is not true; but that it does eat wheat and corn in season can not be denied. The same reports from the Government prove that the grain eaten forms forty-five per cent. of the diet of this bird, but they further hold that half of this consists of the waste kernels which have fallen to the ground. This reduces the damage done by it to small proportions. As an offset, we must give the bird credit for the destruction of many injurious insects during the breeding season, for it raises its young entirely on insect food. Every farmer knows that the Grackle follows the plow and explores the upturned earth to feast on the worms and grubs which destroy his crops. If the good accomplished by this bird is set over against the damage done to agriculture by it, the balance will be in the bird's favor. When farmers' boys understand this, they will cease to kill it and hang it in their fields for a scarecrow.

RED-WINGED BLACKBIRD

MALE—General color black; shoulders crimson bordered with light orange; bill and legs black. FEMALE—Head and back nearly black but streaked with rusty and buff; rump and tail dark brown; wings dark margined with reddish and buffy; under parts streaked with black and white; throat tinted with yellow. The young birds resemble their mother until they are grown. Length, nine inches. Eggs, three to five, pale blue streaked with black, 1.00 x .75 inches.

This Blackbird ranges throughout Eastern North America, breeds from the Gulf of Mexico to New Brunswick and winters in the Southern States. It arrives early in March and leaves in November.

It is strikingly beautiful in contrast with the dull, gray, naked ground of early spring. The male comes several days before the female, and while awaiting her arrival he appears very restless, spreading his wings, bowing gracefully, and waltzing back and forth while constantly uttering his peculiar *chuck, chuck, o-kal-ree-e-e.*

The nest is built early in May in some swamp on the ground, rarely in a bush. The center of a bunch of cat-tails suits these birds best and the dry leaves of that plant are often worked into the nest. Fine grasses and sometimes horse-hair is used for a lining. The same swamp often contains the nests of many of these birds, for they like to live together in large families. Two broods are hatched in a season, one early in June and the other late in July.

During the spring and early summer the Red-wings devour multitudes of injurious insects and worms; but later, when the

RED-WINGED BLACKBIRD.
½ Life-size.

grains begin to ripen, they change their food and vex the farmer. In the fall, they gather in great flocks, sometimes numbering many hundreds, and move slowly southward over the fields, feeding upon corn, rice and other grains as they go. Surely the farmer has some reason to complain of them then, but he should remember the help which they gave him in raising his crops and not shoot them for taking a little pay for their labor.

BIRD NOTES

HORNED LARK

Top of head and back brown; black patch under the eye and on the breast; throat yellowish-white; under parts white; wings reddish-brown; tail black; horn-like tuft of feathers on either side of the head. Length, seven and one-fourth inches.

Nest, on the ground, loosely made of grass. Eggs, four, .90 x .60 inches, grayish-white specked with greenish-brown.

The Horned Larks are permanent residents in the Northern States east of the Rocky Mountains. As they prefer a cool climate, many of them go far north in summer and return in the fall; therefore, they are most abundant in our latitude in winter. They are so hardy and cheerful that zero weather does not check their song.

They live in flocks of a dozen or more except in the nesting season which is early spring. Before the frosts of winter have passed, the nest is built upon the ground in an open field. Frequently the mother-bird is covered with snow while she is sitting, but she never forsakes her nest. The author found on April 18th in the outskirts of Buffalo a nest which contained four half-grown Larks. The incubation must have begun in March. One week later the young birds flew away.

These birds live upon the ground. They seldom alight in trees. They sometimes mount a fence-post when they sing, but oftener their song is delivered from the ground. If you come upon them suddenly, they do not rise and fly, but run before you. Whether they are running over the frozen fields in winter or along the dusty highways in summer, they are very interesting birds.

Living in winter upon the seeds of troublesome weeds

HORNED LARK.
$\frac{3}{4}$ Life size.

and in summer upon both seeds and insects, these birds are beneficial to man. It is a gratifying fact that they are increasing and spreading from the Prairie States, their original home, to the older states in which the forests have been cleared away.

The fame of the European Skylark of which the poets write rests upon its habit of singing as it rises high in the air. Our Horned Lark has the same gift. Often while pouring out its song, it will rise in large circles beyond sight and hearing. After an absence of a few seconds the song returns and soon the bird reappears as a speck in the sky. Rapidly it descends with wings almost closed. You fear that it will be dashed to death, but when it is nearly down, its wings are again expanded, the falling is checked and the bird touches the earth with the lightness of a feather.

CEDAR-BIRD, CHERRY-BIRD, OR WAX-WING

Neck and back a glossy brown; forehead and a line through the eye black; a conspicuous crest; wings brown shading to black; bright red spot on shorter wing-feathers; tail and wings gray; tail tipped with yellow; breast and under parts brown turning to yellowish-white near the tail. Length, seven and one-half inches.

Nest, made of strips of bark, dry grass, leaves, moss, twigs and rootlets. Found in trees from five to fifteen feet from the ground. Eggs, three to five, light green or dingy white spotted with brown or black, .80 x .60 inches.

After spending the winter just far enough south to avoid very cold weather, the Cedar-birds appear in the Northern States early in April. They come in small flocks flying just above the tree-tops in regular and compact order. Both in flying and in alighting, their movements are made with the regularity of soldiers, every one doing the same thing in exactly the same way. Were they under the control of a master spirit they could not be more uniform in their actions.

Several of them will range themselves in line upon a single limb, thus tempting a sportsman to kill them all at a single shot. Sitting together in their glossy cinnamon-brown coats and lofty caps, with wax-tipped wings and yellow-banded tails, these birds present one of the most beautiful sights in nature. Often while a flock is at rest, one of them will rise and, whirling in the air, snatch a passing insect like a true Flycatcher, after which it will quickly take its place in line again.

The gentle, affectionate ways of the Wax-wings are

CEDAR WAXWING.
½ Life-size.

seldom equaled among birds. They will carefully dress one another's feathers, and while doing it, throw in a few caresses for good measure. So far does this kindness extend that one bird may deny itself the pleasure of eating a nice fat worm in order to pass it to its companions, all of whom may do the same polite thing.

The mating does not take place until late in June when the flocks break up and the nesting begins. These birds seem to wait for the fruits on which they feed their young to ripen before beginning their nests. The female and the young closely resemble the male bird, which is not a common occurrence among the highly colored birds.

The farmer is not partial to the Cedar-bird, or Cherry-bird as he calls it, because it sometimes helps itself to a few early cherries and other small fruits of the garden. He may not know that his loss is overbalanced by the help which the bird gives him in the spring, when it feeds on the Canker-worm, so injurious to elms and other shade trees. During the summer months wild berries are the principal diet of Cedar-birds.

We listen in vain for a song from this bird. Only a faint *tseep, tseep* ever escapes from it. However, its fine manners and splendid uniform command our admiration, and fully atone for the lack of song.

AMERICAN WOODCOCK

Front of head slate color tinged with buff; back of head black; remaining upper parts black mottled with reddish-yellow; under parts mixed red and yellow; neck short; bill five inches long. Length, eleven inches.

Nest, made of leaves on the ground in the woods. Eggs, four, pale buff with brown spots, 1.60 x 1.25 inches. The Woodcock is an uncommon bird in form. It has a bulky body, a long bill, a stumpy tail, short legs and wings, thick head and large black eyes so placed that it can look upward or backward as well as forward. This power of vision is much needed by this bird, for no other game bird has been so mercilessly hunted as this one. With dog and gun the sportsman has sought it everywhere. It is now protected by law during most of the year.

Low, swampy woodlands are its usual home, though in autumn it frequents cornfields and pastures near woods. Here the hunter finds it during the brief open season. When startled from its haunts, it rises but a few feet from the ground and flies only a short distance. After alighting it runs forward for a few rods, hoping to mislead the pursuer. When flushed near her nest or young, the mother pretends lameness or a broken wing to draw the trespasser away from her possessions.

During the day the Woodcock keeps to the woods or thickets, but with the approach of night it comes out to seek food. Now the use for the long, sharp bill is seen. Boring into the damp ground with it, this bird finds and eats great numbers of earthworms. The "borings" or holes made in this way are sure signs to the hunter that the bird is near. The

AMERICAN WOODCOCK
$\frac{2}{3}$ Life-size

bill is also used to turn the fallen leaves when searching for lurking insects.

The perfect equipment of the Woodcock for obtaining its food excites our admiration and wonder, but after all, this is no more perfect than the equipment of any other bird. In one it may be a lance-like tongue, in another, a vice-like grip of claws or beak, and in a third, an eye fitted for nocturnal vision. Just the right power has been given to every bird to enable it to provide for its wants and fulfill its mission in the world.

The Woodcock comes from the Southern States early in April and remains until September. At nesting time the male often amuses himself at nightfall by rising in a spiral path like the Lark high in the air and then suddenly plunging down in a zigzag course to the earth. This feat may be performed over and over again many times in an hour. At such times a whistling sound resembling a faint warble is heard. The bird has no song.

MALLARD DUCK, OR WILD DUCK

MALE—Head and neck glossy green; a white ring around the neck; breast chestnut; belly dull white streaked with gray lines; back brown; wings gray with purple bars; rump black; upper tail feathers black and the lowest ones recurved; bill greenish-yellow and feet orange. FEMALE—Wings like male, belly yellowish mixed with grayish-brown; other plumage dark brown with some buff. Length, twenty-four inches.

Nest, usually on the ground, near a stream or lake, made of grass and leaves, and if in the far north, lined with down. Eggs, six to ten, greenish-white, 2.30 x 1.60 inches.

The Mallards are the wild species from which our domestic Ducks were derived. They are common in the Northern Hemisphere of both the Old and the New World. In America, they winter in the Southern States and southward and nest mainly in Canada.

They migrate slowly in flocks in early spring and late fall, often stopping for days by the way. They travel by night, and rest and feed in lakes and streams by day. While floating on the water, they frequently sleep with their heads under their wings, always, however, leaving one or more of their number on the watch for an enemy. They are very shy and take to the wing on the first alarm. Before alighting again, they wheel several times about the place selected to make sure no danger awaits them.

These Ducks are killed in large numbers for food. They feed mostly at dawn and dusk, eating grain, mollusks and the roots of plants. Various methods are used to get near them. Often decoys made of wood and painted to resemble

MALLARD DUCK.
Life-size.

Ducks are placed in the water to induce the flocks to alight. Hidden nearby on the shore or in his boat, the hunter is ready to shoot when the Ducks, deceived by the decoys, stop to rest.

After incubation begins, the male deserts his mate and leaves her to hatch and raise the young alone, while he leisurely wanders about with other drakes. When the female leaves her nest to obtain food, she carefully covers her eggs both to hide them and to keep them warm.

Ducks can swim almost as soon as they are out of the shell. After a day or two the mother takes the brood to the nearest water and does not return again with them to the nest. They spend the day with her in the water seeking food, and at night she gathers them under her wings on the nearest land. Like Chickens and Goslings, young Ducks are covered with fine down for several weeks before their feathers appear. All kinds of Ducks, young and old, enjoy diving. Much of their food is found under water, and, therefore, they frequently have to stand on their heads while they are getting it. The Mallards utter the familiar *quack* of the tame Ducks.

Domestic Ducks are raised in large numbers on farms and in poultry yards both for their feathers and for table use. Like Geese they may be "picked" several times during the warm weather as their feathers quickly grow again. Their flesh is much prized for food. During the spring months they are fairly good layers but their eggs do not sell well in the markets. These birds are so fond of the water that they should have an abundant supply of it. If ponds and streams are not conveniently near, artificial pools should be provided for them.

BALD EAGLE

MALE AND FEMALE—Head, neck and tail white, other plumage blackish-brown; bill and feet yellow; legs nearly covered with feathers. Length, thirty to forty inches.

Nest, in a high tree, generally an evergreen, is built of sticks loosely laid together and slightly lined with coarse grass. Eggs, two to three, nearly white, 2.90 x 2.20 inches.

Bald Eagles were formerly quite numerous along the Atlantic coast and near the large streams and inland lakes of our country, but, owing to the wanton killing of them, they are now rarely seen in New York State. If one is discovered at the present time, the fact is considered important enough to publish far and wide. Mounted specimens in museums and a few live birds in zoos afford the only opportunities for most people to study them. They winter along the coast of the Southern States. West of the Mississippi and especially in the Rocky Mountains, this species is replaced by the Golden Eagle, a bird of nearly the same size, but differing widely from it in color.

This Eagle prefers fish to any other kind of diet. It does not plunge into the water for its food like some birds, but contents itself mainly with the dead fish found floating on the surface. Soaring far aloft it frequently descends upon the Fish Hawk as that bird rises from the water with a fish and compels it to drop its prey and flee for safety. Quickly overtaking the falling fish and seizing it in its talons, the Eagle flies away to a tree-top or a rocky cliff to devour it. If fish cannot be obtained, this bird will take small animals for food, not caring whether they are dead or alive.

In appearance this is the most imposing bird of our

AMERICAN BALD EAGLE.

country. Its great size, breadth of wings, wonderful flights and power of endurance give it a majesty unequaled among birds. It is not surprising, therefore, that our forefathers selected it as the emblem of the nation.

Joseph Rodman Drake has exalted the national symbolism of this bird in the opening verses of his "Ode to the American Flag."

When Freedom from her mountain height,
  Unfurled her standard to the air,
She tore the azuré robe of night,
  And set the stars of glory there;
She mingled with its gorgeous dyes
The milky baldric of the skies,
And striped its pure celestial white
With streakings of the morning light;
Then from his mansion in the sun,
She call'd her eagle-bearer down,
And gave into his mighty hand
The symbol of her chosen land.*

Majestic monarch of the cloud,
  Who rear'st aloft thy regal form,
To hear the tempest-trumpings loud,
And see the lightning lances driven,
  When strive the warriors of the storm,
And rolls the thunder drum of heaven—
Child of the sun! to thee 'tis given
  To guard the banner of the free,
To hover in the sulphur smoke,
To ward away the battle-stroke,
  And bid its blendings shine afar,
  Like rainbows on the cloud of war,
    The harbingers of victory!

*The shield, having upon it the armorial bearings of the United States, is borne on the breast of an American Eagle. See quarter and half dollar.

CANADA GOOSE

Back and wings grayish-brown; head and neck black with a broad white patch on the throat and side of the head; tail black; under parts gray shading to white; bill and legs black. Length, thirty-six inches.

Nest, usually on the ground and made of twigs and grass, lined with feathers. Eggs, five to seven, nearly white, 3.50 x 2.50 inches.

The Goose was probably one of the first birds tamed by man. In the domesticated state, it has been of great value both for the table and on account of its quills and its fine soft feathers. It still remains a highly prized article of food with many families. Thousands are raised and sold in the markets annually. The goose-feather bed, formerly used in every home, is not yet wholly displaced. Until the invention of steel pens, less than a hundred years ago, all the people of Europe and America did their writing with pens made from goose-quills.

In our country there are several kinds of wild Geese, the best known of which is the Canada Goose, often called the Common Wild Goose. This kind is seen by us during its migrations in early spring and late fall as it goes into the Hudson Bay region for nesting, and again as it returns southward towards Mexico for its winter home. A journey of three thousand miles is made twice a year for the privilege of raising the young in the distant north.

In their migrations, these birds fly in flocks under the leadership of a gander. They may be arranged in single file, but oftener they group themselves in two lines forming an angle like a half inverted V with the leader at the point. As

CANADA GOOSE.
¼ Lifesize

they go, they utter a loud *honk, honk* which can be heard a mile away. By doing this, they advertise their approach, and the skillful hunter frequently kills one or more of them as the flock passes over his head. In the spring migration, they often alight in the wheatfields of the Northern States to feed upon the tender grain then but a few inches high. At night they stop on some lake or stream to rest and find food.

After arriving at Hudson Bay, the birds remain together in flocks for three or four weeks, after which the mating occurs and they all disappear in the marshes and swamps of Canada where the nesting and the rearing of the young take place. As autumn approaches the old ones reappear on the waters, bringing their young with them. The flocks are then reformed and in September they start on their long journey southward. Sometimes while migrating, Wild Geese are separated by storms and fogs. Bewildered, they descend to the earth and occasionally mingle with tame flocks. If caught and confined for a time, they become tame and remain with the domesticated Geese.

The food of Geese is grass, grain and plants found in streams. The feathers of tame Geese are plucked three or four times during the year. Ten to twelve eggs are laid by them in the spring, the time of incubation is four weeks, and the period of growth of the goslings is about six months.

AMERICAN SPARROW HAWK

Top of head reddish-brown fringed with black; back reddish-brown streaked with black; wings dark slate above and lighter slate on under side; tail reddish-brown with black band near the end and the tip white; throat white; under parts buff with black spots. Length, ten inches.

Nest, in cavities of trees, often in Woodpeckers' holes. Eggs, four to six, white or buff and specked with reddish or brown spots, 1.40 x 1.10 inches.

This is the smallest of the Hawks. Early in April he comes up from the Southern States where he winters. Taking possession of a hole in a tree, he begins housekeeping. The male cheerfully bears his part with his mate in brooding the eggs and feeding the young. The same nest is used year after year. The eggs are hatched in about fifteen days and the little Hawks are fed at first with grasshoppers, crickets and bugs, but later they take kindly to a diet of mice, small snakes and other birds.

The reputation of this species of Hawks and of some others suffers injury because one or two kinds pick up a few of the farmer's chickens now and then. By examining the stomachs of over three hundred Sparrow Hawks, one scientist found nothing to prove them guilty of eating chickens; but he did discover that they destroy large numbers of mice, reptiles, small birds and insects.

The favorite resort of the Sparrow Hawk is the top of a dead tree standing well out in a field. Here he waits and watches for prey. Now he leaves his lofty perch and, flying away for several rods, hovers gracefully in the air for a few

AMERICAN SPARROW HAWK.
$\frac{2}{3}$ Life-size.

seconds and then drops quickly to the ground. Clutching his prey in his talons, he flies back to his lookout before devouring it though it be but a field mouse.

Soon he makes another venture and, as he returns to his tree, we discover that he has captured a snake. After killing it, he proceeds with much gulping and jerking of the head to swallow it whole. Again he darts off, this time into a thicket, and in a few moments comes back with a small bird in his talons. He may have taken any one of several species, for he is not always careful to select a Sparrow for his dinner. Possibly it is a Robin, a Blue Jay or a Blackbird. His superior strength makes him more than a match for any one of them and they often fall victims to his appetite.

A final dash may be made from the tree to the ground where at last he remains for some time. Now he is taking a dessert of grasshoppers and bugs which make up no small part of his food. If frightened by your approach, he flies away to the woods. His cry is a sharp, rapidly repeated *killy-killy-killy-killy.*

PHOEBE

Upper parts grayish-brown with a green cast; darker on head; wings and tail dusky; outer tail-feathers and wingbars whitish; under parts white washed with yellow on belly and brownish on sides and breast; bill and feet black; head with slight crest. Length, seven inches.

Nest, twigs, roots and moss cemented together with mud and lined with grass and hair. It is located on a beam or rafter in some outbuilding, or under a bridge or an overhanging bank. Eggs, four to six, white, .75 x .60 inches.

The Phoebe is a bird with nothing about her to please the eye or charm the ear. She is not graceful in form nor attractive in flight; her plumage is not brilliant nor her song a sweet melody. In fact she is a homely bird, while her only note is a monotonous cry of *pewit phoebe* all day long. Yet strange to say, she is one of the best beloved birds of all that come to us from the sunny South.

Why is this so? For the same reason that some plain, unpretending people who have great, loving, generous hearts command our admiration and respect more than many others who have mere external beauty of face or form. The Phoebe is like the former. She is kind, gentle and helpful to all. "Handsome is that handsome does" applies to birds as well as to men, hence everybody likes this little bird.

Here are some of her virtues: she never quarrels, she never steals, she is never cruel to other birds. Early in March she comes to the farmer's door as a forerunner of balmy spring. She knows that she is just ahead of the soft, warm winds and she wants to tell everyone of it. Hopping about

PHOEBE.
$\frac{3}{4}$ Life-size.

the premises, she introduces herself by telling her name over and over. Perhaps she needs no introduction, for doubtless she was there last year and she has now come back to cheer and help her human friends again.

Immediately, she takes up her summer's task of waging unceasing warfare upon the destructive insects of tree and garden. Never once does she exact the smallest measure of toll of fruit or grain for her labor. A Flycatcher by nature, she rids the air of unnumbered gnats, flies and bugs which she takes upon the wing. All she asks in return for her services is a place on a beam in a barn or under a bridge where she may build her nest and rear her young. This she does with such patience and devotion that she deserves the title of the "Model Mother" among birds. In October she returns to the South.

THE MEADOW LARK

Back brown spotted with black; breast bright yellow with a large black crescent; throat and belly yellow; a yellow stripe over the eye; tail feathers pointed, the outer ones white; sides gray dashed with black; legs and feet, flesh-color. Length, ten and one-half inches.

The Meadowlark reaches New York State about April first and it remains until November. The nest is made on the ground, in the high grass, about the last of May. The material used consists of coarse, dry grass for the framework, which is lined with finer grasses. Sometimes the high, dried grass of the previous year is bent over to form a protecting arch above the nest. Four or five white eggs, a little larger than those of the Robin, specked with lilac or brown, are placed in this cosy home. Occasionally two broods are raised in a summer. The parents are very tender of their children and continue to feed them for many weeks after they are able to fly. Eggs, 1.15 x .80 inches.

The Meadowlark may be called a bird of the fields, for it lives mainly upon the ground where it hunts for worms, beetles and the larvae of various insects of which it destroys large numbers. Because of its shyness, it is difficult to get close to it unless it is hidden in the high grass, when one may approach within a few feet of it. The clear, sweet warble of this bird, which sounds like *wee-tsee-tsee-ree-re,* will often betray its presence when it cannot be seen. Its peculiar flight, consisting of a few strokes of the wings, followed by a short sailing movement before it alights again, helps to distinguish it from other birds.

MEADOWLARK.
½ Life-size.

The family is apt to keep together until the time for migration arrives, when old and young go southward together. In the Southern States they become very tame in winter, running about the lawns and gardens like the Robins in the North. Although a few of these birds remain here through the winter, most of them migrate.

BIRD NOTES

COWBIRD, OR COW BLACKBIRD

MALE—Glossy black everywhere except head and neck which are dark brown. FEMALE—Brownish-gray. Length, seven and one-half inches. The Cowbird never builds a nest but lays its eggs in the nests of other birds. Eggs, white, specked with brown, .85 x .65 inches. The number of eggs is not definitely known as they are left in several different nests.

The Cowbird comes to the Northern and Middle States from the Southern States and Mexico about the first of April. Like many other birds, it migrates by night to avoid its enemies. This bird has no friends among the bird family and, therefore, it is compelled to seek companionship with its own kind. Cowbirds live in flocks of small size, frequenting the woods, the pastures and other open fields. They are often seen following cattle about and picking up the worms and insects disturbed by their feet. This habit has given these birds their name.

All birds in our country have great love for their young except the Cowbirds. They never pair and build nests like other birds, but deposit their eggs in the nests of smaller birds which often do not discover the fraud practiced upon them. No young Cowbird was ever raised by its own parents. The eggs are hatched and the young reared by strangers.

The female Cowbird leaves her roving companions just long enough to search the woods for another bird's nest, where, when she finds one, she deposits an egg during the absence of the owner and quickly returns again to her friends. If the injured bird is large enough to remove the strange egg from among her own, she often throws it out of the nest and

COW BIRD.

e-size.

breaks it. Sometimes, a bird too small to do this, builds a second story to her nest, thus burying the strange egg with some of her own below. Then she will lay another clutch of eggs in the upper nest and rear her family in peace. Far oftener, however, the little bird settles down on the nest and hatches the strange egg with her own.

The Cowbird's egg being larger than the others comes nearer to the mother-bird and receives more heat from her body; hence it hatches a day or two sooner than the smaller eggs. Often the mother leaves her nest to seek food for the foreigner, and as a result, her own eggs are chilled and never hatch. If her eggs are hatched, the little ones may starve to death because the young Cowbird, being larger and stronger, demands and receives most of the food brought to the nest. In some cases both kinds of birds grow up together in the one nest. After the Cowbird has become larger than its foster parents, it continues to compel them to feed it. At last when fully grown, it flies away to live with birds of its own feather without a word of thanks to the kind friends that have reared it.

The birds oftenest imposed upon by the Cowbird are the little Yellow Warblers, the Chipping Sparrows and the Vireos. Whenever you find a nest with one egg in it much larger than the others, you may be sure it is a Cowbird's. If these birds did not destroy quantities of troublesome insects, they would have little to recommend them to our favor. With only a gutteral *cluck-tse-e-e* for a song, and with their unnatural neglect of their young, they do not command either our love or our respect. In October they take their departure for their winter home in the South.

BELTED KINGFISHER

MALE—Upper parts grayish-blue; a prominent crest; a white spot before the eye; bill large and stout and longer than the head; wings and tail bluish marked and specked with white; throat and belly white; a bluish band across the breast resembling a belt. The female has a reddish band on the breast where the male has a blue one. Length, twelve inches.

This bird lives near brooks and along river banks where it can easily obtain its favorite food which is fish. It may be seen perched on a limb overhanging a stream, sharply watching the water below until a fish passes along.

Suddenly it dives into the water with a loud splash and almost instantly arises again to the same perch, rarely failing to bring a fish in its beak. If the fish is small, it is swallowed at once; but if a larger one is caught, it is beaten against a limb until dead, after which, with much flopping of wings and gulping and straining, the bird manages to get it down whole.

The Kingfisher sings no song. When it is frightened by the approach of a person, it will rise and fly along the stream, uttering a harsh grating sound much resembling a rattle. The range is from Labrador to Florida. It winters from Virginia to South America. It comes north in March and leaves in November.

The nest, made of strange materials, is placed beyond the reach of all enemies. The birds dig a tunnel about six feet long in the perpendicular bank of a river. The mouth of this tunnel is just large enough to admit the passage of a single bird, but the inner end is enlarged and rounded to provide room for the parent birds and their nest. Here they make the

KINGFISHER.
⅝ Life-size.

nest out of the fish bones and fish scales which they have thrown up from their stomachs. On this prickly bed and in this dungeon, six or eight white eggs, 1.35 x 1.05 inches, are laid and the young ones are raised. As it is a great task for the birds to make the tunnel, they use the same one over and over for several years in succession.

BIRD NOTES

FLICKER, HIGH-HOLE, OR GOLDEN-WINGED WOODPECKER

Top of head gray; scarlet crescent on back of neck; the back and the upper side of the wings brown, striped with black; rump white; throat and breast pinkish-brown; under side of wings bright yellow; tail nearly black above, but yellow tipped with black underneath; black crescent on the breast; under parts gray, thickly covered with black spots; bill long and stout. The male and female are alike except that a black spot is lacking on each cheek of the female. Length, twelve and one-half inches.

The nest is made in a hole pecked out by the birds in the trunk or limb of a dead tree. It is from ten to eighteen inches deep. At the bottom of the hole, the eggs with shells so thin that the yolks may be seen through them are laid on the chips produced in pecking out the passage. The birds take turns in sitting on the nest and each feeds the other while thus engaged. Eggs, six to ten, 1.10 x .85 inches.

Soon after the Bluebirds and the Robins arrive in March, the Flicker will announce some morning that he has come too. This he will do by beating a tattoo on a dead tree and crying, *wrickah, wrickah, wrickah* or *keeyer, keeyer, keeyer.* The sounds which he makes are not musical, yet, because they are given in such a rollicking, good natured manner, they are quite pleasing to hear.

The young are fed with half-digested food thrown up from the stomachs of the parent-birds after the manner of Canaries. When they are old enough to leave the nest, the mother tries to coax her family out of the hole and, failing in

FLICKER.
(Colaptes auratus).

his, she gives them no food for several hours. Through iunger, the little ones are forced to crawl to the upper branches)f the tree, where their parents continue to feed them until they ıre able to obtain their own food.

Other Woodpeckers live altogether in trees, but the Flick-ers are frequently found on the ground searching for insect :ood. Ants are especially pleasing to their taste and conse-quently they are often seen exploring ant-hills for a meal. It s said that one Flicker will eat a thousand ants in a day. Wild grapes, elderberries and corn are quite attractive to them in the :all.

The Flicker has no bad habits and, hence, he offends no)ne by his conduct. On the contrary he is much beloved for his gentle and helpful ways and greatly admired for his grace and)eauty. Being very abundant everywhere east of the Rocky Mountains, he is one of our best known birds.

BIRD NOTES

SONG SPARROW

Male and female alike; streaked with black and brown above; chestnut crown with grayish streak; under parts white with brown and black streakings; brown stripe back of the eye; reddish-brown streaks on breast; tail reddish-brown. Length, six and three-tenths inches.

The nest, usually on the ground, is made of grasses and occasionally lined with horse-hair. Eggs, four to five, white or greenish, sometimes bluish with brown markings. The eggs in a nest may vary much in color, .75 x .60 inches.

This is one of the most common song-birds. It comes in early March with the Robin and Bluebird to cheer us while the chill of winter is still in the air. Of thirty varieties of Sparrows this one excels all the others in its ability to sing. Perched on a bush or a low tree, it pours out a volume of sweet music that astonishes and delights every listener. How such a little creature with lungs no larger than a pea can produce such varied and charming tones is a mystery. Its joyous nature is irrepressible. No kind of weather can dampen its spirits or stop its song. Often, when disturbed by some sound, it will break into singing in the darkness of the night.

The increasing abundance of this bird is not surprising when we remember that a single pair may raise three broods, or twelve to fifteen young ones in a summer. Its happy song may be heard in the open fields, the forest thickets and the city parks from March to October. As it is fond of bathing, lakes, streams and swampy lowlands attract it most. The male bird is devoted to his family and cheerfully divides with his mate the tedious work of hatching and feeding their young. He has

SONG SPARROW.
¾ Life size.

been known to raise the young brood alone when his mate has been killed.

Man has few more helpful agents among the birds than the Song Sparrow. Worms, insects, larvae and the seeds of troublesome weeds are its daily diet. In the great fight against these pests of agriculture, this bird wages an unceasing warfare, for which, as well as for its song, we should protect and love it. It nests as far north as Canada and winters between the Ohio and the Gulf of Mexico, though a few remain in the Middle States throughout the year if the winter is mild.

VESPER SPARROW, OR BAY-WINGED BUNTING

Upper parts light brown with darker streakings; under parts yellowish-white streaked with brown on breast; wings fuscous; shoulders reddish; tail dark brown with outermost feathers white; bill and feet pale. Length, six inches.

Nest, on the ground and made of coarse grass lined with finer grasses, rootlets and hair. Eggs, four or five, dull white, specked with reddish-brown, .80 x .60 inches.

About the first of April the Vesper Sparrow comes up from the Middle South in great numbers and spreads over the fields and pastures. It is a ground bird, seldom rising above the top rail of the fence. It may be known by the white tail-feathers clearly shown as it alights, the color of the wings, and its habit of skulking before you on the ground.

It may be seen in a short walk through the fields of any farm, or along a country roadside; for it is one of our most common summer residents. As you approach, it runs rapidly before you, then stops for you to come up to it, after which it runs on again, always keeping a little ahead of you. If you hurry to overtake the bird, it may rise and turn aside or fly away and leave you.

This bird raises two families each year. Its neat spring suit becomes much bedrabbled through contact with dust and grass and stubble long before the end of summer. By October, when it leaves us, it has renewed its bright plumage.

The melody of the Bay-wing reminds you of that of the Song Sparrow. However, it is much sweeter though not quite so lively. It is oftenest heard when the day is closing and when

VESPER SPARROW.

SIZE.

most other birds have become quiet for the night. Then its song breaks forth from all parts of the field and the devout listener exclaims, "This is the Vesper Service of the birds."

The first brood hatches early in May just when the farmer is plowing his fields for his crops. Many nests with their birdlings are then buried under the sod. The second brood comes out in July and some of these are crushed under the wheels of mowing machines and reapers. Thus great numbers of the young are accidently destroyed every year, more perhaps than of any other kind of bird.

To all the dangers that surround the life of other birds, is added for these birds, those that come from the free use of modern farm machinery. Fortunately, the rearing of two broods in a season helps in a measure to prevent the destruction of this species.

BIRD NOTES

AMERICAN BITTERN, MARSH HEN, OR STAKE DRIVER

Upper parts brownish-buff spotted with black and brown; black streak on either side of the neck; throat white; neck and under parts buff streaked with brown; legs long and yellow. Length, twenty-seven inches.

Nest in a swamp or reedy marsh, on the ground, made of coarse grasses and weeds. Eggs, three to five, brownish-drab, 1.90 x 1.40 inches.

The American Bittern winters in the Southern States and comes north in April spreading over the Middle States and Southern Canada. It is found wherever there are broad marshes or swamps along the lakes and rivers. In these places it is best able to obtain its food, which consists of crabs, frogs, lizards, fish and snakes. Here it lives and rears its young. In October it returns to the South.

When in its haunts this bird may often be seen in one of two striking attitudes. It may be standing on one foot in the water among the sedges with its head resting upon its breast, apparently asleep, or it may be alert with head and body erect and both feet on the ground, yet so still as to seem lifeless. In either case, however, it is fully awake and ready to fly in a moment. Preferring to remain well concealed during the daytime, it alights again after a short flight whenever disturbed.

At the approach of night it comes out of its hiding place to search for food. Then it may be seen several miles from its haunts. Flying slowly over the water at such times with its long legs dangling behind, it is a very awkward bird.

Another interesting characteristic of this bird is its habit

AMERICAN BITTERN.
½ Life-size.

of "booming." During the breeding season, the male bird may be heard making a loud and startling sound like the boom produced by driving a stake into soft ground. This strange noise is made by forcing air through the throat. When once heard it will be long remembered. This habit of booming has given the Bittern one of its common names while the other is derived from its place of nesting.

BIRD NOTES

CHIPPING SPARROW, OR HAIRBIRD

Forehead black; crown chestnut; a light line over the eye and a black one behind it; back of neck gray; back streaked with black, buff and reddish; wings and tail dusky; under parts grayish-white; throat nearly white; bill black. Length, five and one-half inches.

Nest, in bushes or trees, five to twenty feet up, often near the house, made of grasses, twigs and fine roots, well lined with hair. Eggs, four to five, blue with brown or black markings, .75 x .50 inches.

About April first the Chipping Sparrow arrives from the Gulf States where it has wintered, and spreads over the North, and far into Canada. Though very plain in dress, its gentle, trustful ways make us like it. Very often the nest is built in the shrubbery or vines about the farmhouse and the crumbs from the table may become Chippy's food. Kind treatment will so win its confidence that it will sometimes eat from the hand.

The song is a high, shrill, *chippy, chippy, chippy* quite monotonous to hear. This is among the first birdnotes of the morning and one of the last of the evening. Indeed, it may sometimes be heard in the middle of the night when the bird seems to be trying to cheer itself with its own simple song.

The nests of this species vary widely in structure. John Burroughs says of them: "The Chipping Sparrow contents itself with a half dozen stalks of dry grass and a few long hairs from a cow's tail, loosely arranged on the branch of an apple tree." This description is quite true of many of its nests, yet some are bulky masses of grass and rootlets, while others are entirely composed of hair. In every nest there is a good lining

CHIPPING SPARROW.
Life size

of hair, because of which fact, Chippy is often called the Hair-bird.

This Sparrow like all others is fond of seeds, and in the autumn the parent-birds with their young go to the fields to find their food. Here they feast on the waste grains and the abundant seeds of many wild plants. As you approach them, they rise before you in flocks and flit away to the nearest trees and bushes. The bright bay cap so noticeable in summer has now been replaced by one well-streaked with white for winter use. In late October the heavy frosts warn them to depart for a warmer home.

YELLOW-BELLIED WOODPECKER, OR SAPSUCKER

MALE—Upper parts and wings black and white; top of head and throat bright red; breast black; under parts tinged with lemon-yellow; sides black and white. FEMALE—Same as male except the throat which is white. Length, eight and one-half inches.

The nest is built in a high cavity of a decayed tree in an orchard or a woods. The entrance is circular and just large enough to admit the birds. The cavity worked out by the parent birds is twelve to fifteen inches deep. The chips made in pecking out the hole form the nest. Eggs, white, four to seven, .85 x .60 inches.

The Sapsucker is a common summer visitor in the North. After wintering in the Southern States from Virginia southward, it appears here in March and remains until October. None need fail to see it, for it is abundant in the country and it comes fearlessly into large cities where even the noise of a thousand children at play in a school yard will not frighten it away.

Like other Woodpeckers, it delights in grubs found in trees. Faithfully it will explore a tree, pecking away vigorously as it winds a spiral course from bottom to top. Then it will fly away to other trees where it repeats the search over and over. It also feeds upon the sap of maple and birch trees. It will drill a hole through the bark of one of these trees when the sap is flowing and greedily drink it as it comes from the wound. Not content with tapping the tree once, it makes a

YELLOW-BELLIED SAPSUCKER.
⅞ Life-Size.

patch or circle of holes about the tree to which it comes again and again to feast. It is this habit which has given the bird its name, Sapsucker. This is the only one of the Woodpeckers that does any injury to the trees.

The bird has no song, but frequently utters a harsh, snarling cry to its companions as it flies from tree to tree. When alone it is usually silent. Most of these birds go into the lower Canadian Provinces to nest, hence they are more abundant with us in spring and fall than in summer.

BIRD NOTES

BARN SWALLOW

The upper parts are steel blue; the forehead, throat and breast chestnut; under parts paler; tail much forked and a row of white spots on end of inner tail feathers. Length, seven inches.

Nest, made of mud and grass and lined with grass or feathers. Eggs, three to six, white, sometimes having brown or lilac markings, .75 x .50 inches.

Barn Swallows come out of the tropical countries in early spring and reach the North in April. They are found everywhere throughout the United States and Canada. They remain until September when they return south in great flocks.

Like the Robins, they are masons. Their nests, made of little mud-balls held together with hay or straw, are placed on the rafters of barns and other buildings. Often the nests of twenty or thirty pairs may be counted in one building, and so gentle are these birds that peace always reigns in such a colony. It sometimes happens that the same birds raise two broods in a summer.

Many farmers make little diamond-shaped holes near the peaks of their barns that the Swallows may go in and out freely. While these birds can sing no song to repay the favor, the happy twittering of old and young from the rafters may be a hearty vote of thanks to the thoughtful owner.

The food of the Barn Swallows consists mainly of flying insects which they capture on the wing. Their flight is wonderfully swift and graceful as they shoot through the air, tipping and turning with perfect ease. It is interesting to watch a flock of them as they issue in a stream from a building

BARN SWALLOW.
⅞ Life-size.

and go skimming above meadow and pasture at early dawn or in late afternoon, seeking food for their young.

In August they leave the barns and begin to prepare for their departure. At this time they may be seen near the streams in search of food, and at night they roost in the reeds on the shore. Owing to their rapid flight, they have little fear of other birds and consequently they migrate only by daylight.

BIRD NOTES

SHARP-SHINNED HAWK

Bluish-gray above; under parts whitish closely barred with white and reddish; wings barred with black; tail square, dark gray and tipped with white. Length, eleven inches. Female, two or three inches larger.

Nest, in a tree, thirty feet up, made of twigs and lined with grass and leaves. Eggs, three to four, white tinged with blue or green and spotted with brown, 1.40 x 1.15 inches.

This is one of the smaller Hawks common in the North during the season from March to October. The most of this species spend the winter months south of New York State. It arrives early in March and nests by the middle of that month. In appearance and habits it is much like Cooper's Hawk, differing mainly in being smaller and in having a square tail instead of a rounded one like the latter. The habits of these two species make them the most destructive of the Hawks.

The Sharp-shinned flies low and very rapidly, and before the farmer is aware that a Hawk is near, one of them dashes into the poultry yard and, amidst much commotion, carries off a chicken. It deserves the name of Chicken Hawk, a term too often applied to all Hawks by those who are not familiar with the Hawk family.

It is even more destructive to smaller birds than to poultry. It usually attacks them on the wing, darting after them with great speed as they fly to the thickets for cover; but these really prove no protection from their sharp-eyed pursuer which usually overtakes them. One stroke from its talons or beak is enough to kill or subdue a small bird, after which the

SHARP-SHINNED HAWK.
½ Life-size.

Hawk takes shelter in a thick-leaved tree while eating its prey. It often attacks and captures squirrels and other small quadrupeds as well as birds larger than itself. Its boldness and courage command our admiration, but its destructive nature places it beyond favorable comment. Its note is a sharp and shrill whistle which is seldom heard.

BIRD NOTES

SPOTTED SANDPIPER, TIP-UP, OR TEETER-TAIL

Upper parts brownish-gray crossed with wavy bars of black; head and neck slender; bill one inch long; under parts white and well covered with black spots. Length, seven inches.

Nest, in a slight depression on the ground, scantily lined with dry grass. Eggs, four, white or pale buff, specked with brown and lilac, 1.25 x .90 inches.

Few shore birds are so common as the Spotted Sandpiper. Spending the winter in the more Southern States and southward through Central America, it comes into the North in April and spreads far and wide, journeying even to Hudson Bay. In October, old and young return in families to the southland. It is a true wader, being always found along the seacoast and the shores of creeks, rivers and lakes.

When on the ground, it has a peculiar motion of the tail and body much like teetering. It seems to be constantly losing its balance and as constantly recovering it again. The motion, though odd, is graceful and adds to the bird's attractiveness as it runs along the shore. Tip-Up and Teeter-Tail seem appropriate names for it.

Upon being flushed, it rises with a few quick strokes of its long pointed wings and sails several rods along the beach. If followed, it repeats its short flight several times, and then sweeping a broad curve over the water, it returns to the place of starting. Every time it rises, it utters a shrill, rapid cry of *peet, weet, weet, weet.* This is its nearest approach to a song.

The nest made on the ground in a pasture or a grain field

SPOTTED SANDPIPER.
¼ Life-size.

is never far from some stream or other body of water. This nearness to water is necessary that the parent birds may easily obtain food for themselves and their young. It consists of worms and insects found at the water's edge. If frightened from her eggs, the mother flies away without making a sound; but if her young are about her, she tries the trick common to some other birds of fluttering away as though injured. This gives her family time to hide, and so like the ground is the color of their gray coats that the little ones are seldom found.

CHIMNEY SWIFT, OR CHIMNEY SWALLOW

Male and female a sooty-gray; wings an inch and a half longer than the tail; the quills of the tail extend beyond the web, forming spikes. Length, five and one-half inches.

Nest, bracket-shape, made of twigs fastened together with bird-glue and attached to the walls of a chimney or hollow tree. Eggs, white, four to six, .80 x .50 inches.

The natural homes of these birds were hollow trees and caves, but they are now seldom found in the latter. As our country became settled, they changed their habits and made their nests in unused chimneys. They live in colonies of great size often numbering several hundred. At early dawn they are on the wing pouring out of their sooty homes in streams. The day is spent in flying about and in gathering food which consists entirely of moths and other winged insects. Their flight is wonderfully swift and prolonged.

As darkness approaches they return in flocks, circling high above the chimney top and all moving in the same direction, but constantly nearing the opening. Every few minutes those in the lead drop out of sight and in a short time the whole company has settled to rest for the night. A glance at the interior of the chimney shows the birds clinging to the sides and braced with their spiny tails like Woodpeckers.

The name "Swallow" has been given to these birds because they feed while flying like the Swallows; but they are true Swifts not Swallows. They have no song and only utter a sharp *tsip, tsip, tsip* rapidly repeated. They are said to fly a thousand miles in twenty-four hours, hence the length of their migratory journey is of little consequence to them. They

CHIMNEY SWIFT.
¾ Life-size.

winter as far south as Central America, coming north in April and returning in October.

BIRD NOTES

RED-HEADED WOODPECKER

(See Frontispiece)

Head, neck and throat all crimson; back and part of wings black; remainder of wings, rump, breast and belly white; tail black tipped with white; bill and feet dark. Male and female alike. Length, ten inches.

The nest is generally in a dead tree. Eggs, four to six in number, glossy white, 1.00 x .75 inches. This Woodpecker is found in the United States east of the Rocky Mountains. He winters from Virginia southward, though a few remain north during the whole year.

He feeds on insects and worms, and those which he likes best live in trees. Sometimes these are in the bark, and sometimes in the wood of the trees to which they do great injury. This bird seems to know just what trees contain the insects he wants, for he does not touch other trees. He pecks a hole in a tree with his sharp bill just over the food which he wishes to get, and then he thrusts in his long sharp tongue, spearing the insect with it. The tongue is drawn back, bringing the insect into the bird's mouth. It is believed that the Woodpecker hears the grub boring in the wood and, therefore, he is able to make a hole directly over it. Everyone has heard the loud tapping of the Woodpecker as he strikes the tree with his bill while drilling for food.

This bird can run up the trunk of a tree as easily as other birds can walk on the ground. How can he do this? Most birds have three toes in front and one behind, but the Woodpecker has two in front and two behind. This gives great strength to his feet and, as his toes are tipped with sharp claws,

he can easily hold on to the side of a tree. Birds having such feet are called "climbers". The tail of the Woodpecker is short and stiff, and by pressing the end of it against a tree, he braces himself to strike a hard blow with his bill when drilling a hole.

Our Woodpecker does not make a nice soft nest for its young like most other birds. It drills a hole in a dead limb or tree large enough to let its body far in out of sight and danger; and there in the dark the eggs are laid and hatched. This making of a nesting-place is quite a task, and it takes the labor of both birds for several days to prepare it. As only one bird can work at the hole at a time, the other goes off to get a meal on some nearby tree. However, when the mate calls from the hollow tree, "Time is up," the absent one returns promptly to work while the other flies away for dinner. Thus the pecking is kept up constantly until the hole is often more than a foot deep. What a queer place in which to bring up a family; no grass, no leaves, no soft lining, nothing but chips for a nest!

This Woodpecker does not sing. He makes a harsh sound that may be spelled *ker-er-er* as he runs up a tree in a zigzag way. There are several kinds of Woodpeckers all of which have some red about the head, but no other has so much as this one whose head and neck are bright crimson.

BLACK AND WHITE WARBLER, OR BLACK AND WHITE CREEPER

Upper parts black streaked with white; head, wings and tail nearly all black; sides streaked with black and white; white line through the eye and on top of the head; under parts white. Length, five and one-half inches.

Nest, usually on the ground at the base of a tree, stump or rock, made of strips of bark, grass and rootlets. Eggs, four to five, white, spotted with reddish-brown, .65 x .54 inches.

On account of several points of resemblance, this bird is classed with the Warblers; but because of some habits it is often called a Creeper. It seldom alights on the branch of a tree, but like the Creepers, it zigzags up and down the trunk or hangs from the under side of a limb with perfect ease. It has the Creeper habit too of flitting from tree to tree after beginning at the base and working its way upward.

It lives in the woods that it may readily get its food, which consists of the small insects, their larvae and eggs, found on forest trees. Not having a strong bill like the Woodpeckers, it cannot pierce the bark or wood, therefore it contents itself with what it can find upon the surface to eat. Peering into the crevices of the bark, it spies out its prey and destroys thousands of tree-pests daily. So busy is it about this work that it seldom stops a moment. For the help it thus renders in preserving the forests, this little bird deserves the kindest treatment.

It is a shy bird and one difficult to observe carefully because of its habit of dodging to the opposite side of the tree

BLACK AND WHITE CREEPING WARBLER
About Life-size.

whenever it finds out that it is being watched. There it remains until it is sure no human eye is longer upon it. Then it begins again its spiral ascent or descent of the tree. Its search of the surface of a tree is not so thorough as that of the regular Creepers, but it covers more trees in a day than they do.

Migratory in its habits, it comes north about April first, nests in June and returns to Florida and farther south in October. Its song is a faint *tsee, tsee, tsee.*

OVEN-BIRD, OR GOLDEN-CROWNED THRUSH

Center of crown orange-brown bordered with black stripes; upper parts olive; under parts white, spotted or streaked with black. Length, six inches.

Nest, on the ground, made of twigs, grass, leaves and moss. The top is covered and the entrance is on the side. Eggs, four to five, white, spotted with brown and lilac, .80 x .60 inches.

This common bird is found in the forests of the United States and Canada during the summer season, coming from Florida and further south in April and returning again in September. It is familiar to those who frequent the woods where it lives and where it spends much of the time on the ground, scratching among the leaves for the worms and insects upon which it feeds. While thus engaged it often utters a sharp *cheep, cheep.*

When approached it runs quickly into the thick underbrush making a clear view of it difficult to obtain. Occasionally it mounts to a limb and sings or repeats in a shrill tone with constantly increasing force what sounds like, *teacher, teacher, teacher.* As it sings, it quivers in every feather from the effort it makes to pour out its music. Sometimes it mounts branch by branch to the very top of a tree from which it suddenly launches off into the air where, hovering on rapidly vibrating wings, it bursts into a full, ringing song which both surprises and delights the listener.

Its nest is usually on the ground in the woods. Being roofed over, it looks like a miniature, old-fashioned out-door

OVEN-BIRD.
⅘ Life-size.

oven. Because of this resemblance, the builder is called the "Oven-bird." Some authors class this bird with the Warblers, but until its family relationship is better established, it will continue under the name of the Golden-crowned Thrush.

BIRD NOTES

HOUSE WREN

Reddish-brown above; darker on head; wings and tail barred with black; under parts whitish; sides with blackish bars; throat and breast clay color; feet flesh color. Length, five inches.

Nest, generally near the house, made of twigs, grass, leaves and feathers. Eggs, six to nine, pinkish-white well marked with reddish-brown, .65 x .50 inches.

This lively, cheerful, common little visitor is a prime favorite with everybody. His desire for human protection prompts him to build his summer home under the eaves or in the cornice of the house, shed or barn, or in a hollow apple tree, a bird box or a deserted Woodpecker's hole.

However large the cavity may be, he and his little wife fill it up with twigs through which only a tiny passage is left to the farthest corner where the true nest of grasses, leaves and feathers is located. The entrance is so small that one wonders if the birds themselves can get in. Surely no bird enemy of any size can disturb the eggs or birdlings. Two broods are often raised in a season. It is generally believed that the birds return to the same nest for several seasons.

The food of these birds, young and old, includes a great variety of insects gathered from the leaves and branches of trees, shrubs and plants. Thus in raising their family, Wrens protect our grains, fruits and vegetables. This conduct gives them a strong claim on our care and affection.

The song of the House Wren is poured out with an energy that is far beyond what we might expect from his diminutive size. Naturally nervous, he appears to sing all over when he

HOUSE WREN.
About Life-size.

gives himself to song. With tail erect and head raised he throws himself into his effort so thoroughly that he trembles in every feather. The song itself is varied and musical, now loud and distinct, and then mellow and warbling.

This Wren is a bold intruder upon the rights of other birds. He will drive Bluebirds and Martins from their boxes to gain a nesting place for himself and he fights any bird that approaches his home or attempts to build a nest in his neighborhood. His squabbles with other birds are his pastimes and his happiness appears to increase as his fights multiply. Upon the approach of a cat, which he recognizes at once as a deadly enemy, his song ceases and angry scolding begins. Seeming to trust in his own sprightliness, the bird spitefully berates Miss Pussy who, though ever so sly, seldom catches our Wren unawares. After several unsuccessful attempts to do so, the cat gives up in despair and sneaks off in disgrace, after which the song of the Wren soon begins again.

The pet name often given to the female Wren is "Jennie," which she will soon learn to know. So tame does she become when nesting about the yard, that she will come from her nest when called by name and take a seed from the end of a long pole if it is raised beside her. The House Wrens come to us about April 15th and return to the Carolinas and southward by October 1st.

BROWN THRASHER

Head, back, wings and tail reddish-brown; breast and under parts white with dark-brown streaks and spots; eyes yellow; tail long and spreading. Length, eleven inches.

Nest, in low bushes or on the ground; bulky and made of twigs, rootlets, dried grass and leaves. Eggs, three to six, dull white with greenish tint and covered with minute reddish-brown spots, 1.10 x .80 inches.

This beautiful song bird lives in scrubby trees along the border of woods or in thickets in fields. He is an active, nervous fellow, flying in and out among the bushes, and seldom at rest very long. Much time is spent by him upon the ground searching among the leaves for his food which consists of worms and insects.

Wintering in the states south of Virginia he reaches the North early in April and spreads over the country as far as Manitoba and Quebec. He brings his mate along with him, which may prove that he keeps the same one year after year. Early in October he leaves with his family for his winter home.

The devotion of the Brown Thrashers to their young is so great that they will attempt to defend them against all enemies. The male bird is usually on the watch for intruders and none can get near the nest before a battle begins. Boldly the birds attack snakes, cats and dogs and often make them hasten away. If people approach the nest, the excitement and distress of the parent-birds is truly painful.

The song is a sweet, rapid warble poured out with great spirit and energy. The favorite perch for the bird while singing is the topmost branch of a tree in the forest or the orchard,

BROWN THRASHER.
About Life-size.

and the time selected by him to show his vocal powers is morning and evening. His song resembles that of his near relation, the Thrush, but it has more force and variety.

Young Thrashers when caged are easily tamed. They become strongly attached to those who feed them, and make interesting and amusing pets.

CATBIRD

Top of head and tail black; back and wings ashy; under parts drab; chestnut patch under the tail; feet and bill black. Length, eight inches.

Nest usually in a thicket or brush pile, bulky and carelessly made of twigs, leaves, rootlets and grass. Eggs, three to five, greenish-blue, .70 x .95 inches.

This queer, familiar bird after spending the winter in Florida, Mexico or Cuba, comes to the Northern States early in May and remains until the middle of October. It is common everywhere east of the Rockies. It is oftenest found in the thick brush about swamps, along river banks and in the shrubbery of gardens, but rarely in the deep woods. This may be due to its attachment to man whom it trusts confidently and fears but little.

Owing to its plain, dark dress, the Catbird is not especially beautiful, but, because of its striking characteristic of song and conduct, it is very attractive. Hopping from branch to branch or darting in and out among the bushes, first prinking its plumage, then posing for show, now dejected and forlorn, then instantly alert and angry, the Catbird is an interesting study in moods.

When startled, it will utter the *mew* peculiar to a lost kitten in a tone that is very natural. With head-feathers and tail erect, it will charge upon you if you approach its nest or young, circling about your head in a manner that is perfectly fearless. At the sight of a cat or dog, this bird will fall to mewing and scolding furiously. Its courage is remarkable. It will bravely attack the stealthy black snake, that robber of birds' nests, and

CATBIRD.
$\frac{2}{3}$ Life-size.

with claw and beak compel it to beat a hasty retreat from its nest.

The song of the Catbird is sweet and varied. Whether this is an original song or one learned from other birds is a disputed question. Surely it has in it many tones peculiar to other bird-songs, which it pours out with a rapidity confusing to the ear. It is often blamed for helping itself to some of the small fruits of the garden, but it pays back many fold by destroying hosts of insects during the early part of the season.

WOOD THRUSH

Top of head, back and wings cinnamon-brown, throat white; breast and under parts white with large, round, black spots; feet and legs white; male and female alike. Length, eight inches.

The nest is in a tree from ten to twenty feet from the ground. It is composed of grasses, leaves, weeds and rootlets, which are plastered together with mud like a Robin's nest. Eggs, three to five, light blue, 1.00 x .75 inches.

The Wood Thrush having wintered in Central America comes into our latitude by the first of May. It is easily distinguished from the other Thrushes by its greater size and the large black spots on the under parts which extend up under the wings.

While this bird may sometimes be seen in shady lawns and parks, it prefers the deep woods for a home. There in peaceful, quiet seclusion, seldom broken save by the song of birds, it is found in great numbers. Running brooks also attract it, especially if they are well overhung with bushes and low trees.

Perched on a log or a limb, it will pour out a volume of sweet music that charms the ear and stirs the heart like the swelling notes of a grand orchestra. The song has such variety and sweetness that mere syllables will not represent it. You detect in it the sound of bell and flute and harp through several keys, varied with many runs and trills and cadences. Though the song may be heard at any hour of the day, it is fuller and more joyous at dawn and twilight than at any other time.

WOOD THRUSH.
Life-size.

Like other Thrushes, it is often on the ground seeking its food which consists of insects and berries. It is generally found alone or with its mate, but never in flocks. The male and female are alike in markings and color. By the first of October the last of these birds depart for their winter home.

BIRD NOTES

CANARY

Original color gray on the upper parts shading to green on the under parts. These colors have been greatly changed by the influence of climate and by cross breeding with other birds of similar species. The prevailing colors are gray, yellow, white and reddish-brown. Length, five inches.

The nest is made of grass, straw, paper and bits of cloth, or a ready-made nest will be accepted if provided. Eggs, three to five, light green, spotted and streaked with reddish-brown, .65 x .50 inches.

The original home of the Canaries was the Canary Islands, a group off the northwest coast of Africa, where they were found wild. Some of these birds were taken to Italy in the sixteenth century where people soon learned that they would thrive when caged. From Italy they were carried to all the other countries of Europe. The Linnets of Germany and the Finches of Italy have been purposely crossed with the Canaries. To accomplish this, eggs of the former kinds were taken from the nests and hatched under Canaries. Such wild birds are content with cage-life and mate readily with Canaries.

Canaries may be trained to imitate the songs of other birds or to sing notes produced by musical instruments. If young male birds are placed where they can hear desirable songs or notes repeated several times a day for a considerable period, they will memorize the sounds and learn to sing them. The most valuable birds are raised in Italy where they are trained to sing with the flute. A pair of Canaries will raise from two to five broods in a year.

Near the Hartz Mountains, Germany, Canaries are raised

CANARIES.
Life size.

in large numbers. At least one hundred thousand are brought from that country to America every year. These and many thousands more which are raised annually in our own country, all find a warm welcome in American homes. Of the household pets, there are no others more interesting and delightful than Canaries. Cheerful, musical and beautiful, they are a source of perpetual joy.

BIRD NOTES

NIGHTHAWK, OR BULL-BAT

Upper parts black marked with white and buff; under parts brown and white striped; throat white; breast red and brown mixed; under side of wings brown with large white spot on each wing; tail brown, striped with buff and having a white band near the tip in male only; feet and legs small and weak; bill short and mouth large. Length, ten inches. No nest, eggs two, 1.20 x .85 inches.

This bird is not properly named, as it does not belong to the family of Hawks at all, only resembling them in its flight. It is a bird of the evening rather than of the daytime, seldom showing itself abroad except on cloudy days until two or three hours before sunset. Then, circling high in the air it may be both seen and heard, for its size makes it conspicuous and it frequently utters a loud *peent* as it tips this way and that on the wing. Now and then it plunges headlong towards the earth with a strange, booming sound and a swiftness that threatens sure death; but, just before reaching the earth it turns suddenly with a few quick movements of its wings and soars again to the region of the clouds only to repeat its aerial gymnastics a few moments later. The white spot on the wing is an easy mark of identification.

During these lofty flights the bird is feasting on the moths and beetles that fly high in the air. Long after the darkness of night has settled down, the cry of the Nighthawk may still be heard in the sky. It is not confined to the country. The dwellers in cities and towns may see it sailing above the loftiest buildings and tallest church spires on the top of which it sometimes alights.

NIGHTHAWK.
$\frac{3}{4}$ Life-size.

The daytime is passed by the Nighthawk in the woods, perched lengthwise on a limb, or in the open fields sitting upon the bare ground or on the lofty tower of some building. Owing to the peculiar construction of its feet and the weakness of its legs, this bird sits lengthwise on a limb or squats upon the ground when resting.

The eggs, two in number, are usually laid on the ground or a flat rock without a sign of a nest or protection of any kind. Sometimes they are deposited on the flat roof of a building in the city. The mother bird if disturbed while on the eggs, flutters away before you as though her wings were broken, keeping just beyond your reach until she has led you for some distance; then she will mount high above the earth leaving you amazed at her skillful trick. Arriving early in May, the Nighthawks remain until October, when they gather in large flocks and migrate leisurely southward, not stopping for a winter home until they reach the West Indies or Brazil.

BIRD NOTES

RUBY-THROATED HUMMINGBIRD

MALE—Bright green above; wings and tail brownish-violet; throat and breast ruby colored; belly light gray; bill long and sharp. Female lacks the bright feathers on the throat which is dark gray instead. Length, three and one-fourth inches.

Nest, in an orchard or grove, located on a horizontal branch, generally about twenty feet up; built of plant down and covered with lichens; eggs, two, white and tiny, being about the size of peas.

The Hummingbirds live only in the Western Continent where more than one hundred species are found. Their home is in the torrid zone among the Mountain regions of Columbia and Ecuador. A few species migrate to our country during the summer season, but the Ruby-throat is the only kind that ever comes further north than Louisiana. It arrives in the north in May and returns south in September.

This bird takes its name from the humming sound made by the rapid vibration of its wings as it hangs almost motionless before a flower from which it is seeking insects or sipping honey. The little sprite, the smallest bird we have, gets its food among the flowers, and as it has little fear of man, it lives in city and country wherever flowers most abound. Any bright flower will attract it, but tubular blossoms are its special delight. These often attract insects as well, thus enabling the bird to gain both kinds of food at the same time.

The Hummingbird has no song. Its grace and beauty are sufficient to make it a welcome visitor everywhere. Unannounced save by the whir of its wings, it enters the garden like

RUBY-THROATED HUMMINGBIRD.
About Life-size.

a flash and, after darting about from blossom to blossom, it completes its search for food in a few seconds and disappears with a suddenness that leaves you wondering if you have really seen anything after all. Sometimes it will enter greenhouses and rooms where flowers are blooming in quest of food. If captured, it may be tamed in a day, but it does not live long when caged.

The nest of this little bird is difficult to find. It is no larger than a walnut and, as it is covered with lichens or tree moss to hide it from prying eyes, great care is required to discover it. The nesting season is June and July, and the period of incubation but ten days. The care of the young falls upon the mother. The feeding is done by regurgitation, the method by which Canary Birds and Doves feed their young.

These tiny creatures have no fear of other birds. They are regular duelists and fiercely attack and drive away from the neighborhood of their nest Sparrows, Yellow Birds and even Kingbirds. Indeed they seem to love to fight for the sake of fighting, often picking a quarrel without occasion. The smallest of other birds are giants in comparison with Hummingbirds, yet the bravest of them dread the lightning-like thrusts of the Ruby-throats and fly rapidly away when pursued by them.

KINGBIRD, OR BEE-MARTIN

Male and female much alike; blackish-gray above; wings and tail almost black; under parts and tip of tail white; a small red or yellow spot on crest. Size, a little smaller than a Robin. Length, eight and one-half inches.

Nest, on a horizontal limb of a low tree, composed of weeds, sticks, moss and leaves. Eggs, four or five, creamy white, blotched with brown and lilac, 1.00 x .75 inches.

The Kingbird belongs to the family of Flycatchers of which fact anyone is soon aware if this bird's habits are observed. Perched on a fence or low limb in the garden or orchard, he waits for insects to fly past him. Instantly he darts after them and snaps them up with a sharp click of the bill. Then he returns to the same spot to wait for more prey.

Among the winged insects, he sometimes catches a honey-bee and this habit has brought on him one of his names. The examination of the stomachs of many Kingbirds made by the Biological Survey of the Government shows that only a few bees are really eaten by this species. As a beehive contains such a multitude of workers, the loss of one now and then is of little moment compared with the great benefit done by this bird in the destruction of bugs, moths and grasshoppers.

The Kingbirds arrive here about the first of May and return to the tropics by the end of September, during which interval they often rear two broods of young. They have no song, uttering only a harsh *teseep* as they watch for prey.

The most noticeable trait of these birds is their readiness to fight. They are veritable bullies towards smaller birds and quite fearless in attacking larger ones. The Crow and the

KINGBIRD.
$\frac{3}{4}$ Life-size.

Hawk seem to stir their wrath at sight and a single Kingbird will drive either of them away as soon as it approaches his neighborhood. It is amusing to see the little tyrant dart at one of these great birds of prey, saucily thrusting at it with his beak as he dashes down upon its back again and again, often driving the enemy a mile or more before leaving it, after which he returns to his mate who comes out promptly to join him in a revel of delight over his victory. He is properly named Kingbird, for no other bird compares with him in ability to fight and vanquish other birds.

BALTIMORE ORIOLE

MALE—Head, neck, throat and upper back black; breast, belly and lower back deep reddish-orange; wings black, with a patch of orange on shoulders; feet and bill black. Length, seven and one-half inches. The female is a yellowish, olive-colored bird with dark brown wings; and if not seen near her mate, she might not be recognized as an Oriole.

The Baltimore Orioles winter in Mexico, Cuba and Central America and come as far north as Maine in summer, rarely entering Canada. Like many other birds, the males precede the females which travel slowly in flocks about ten days behind. They arrive early in May and leave in September.

This is one of the gayest birds that ever leave the tropics, and his coming gives a glimpse of the bright plumage of birds that live in the warm countries. Naturally everyone loves this beautiful bird, not only for his bright colors but for his happy song. Abundant everywhere in the country, he is often seen in the cities in the fruit trees and the parks. Perched on the topmost branch of a tall elm, apple or pear tree, he whistles merrily what sounds like *hero, hero, hero; cheery, cheery, cheery; cheer-up, cheer-up, cheer-up.*

Many names have been given to the Oriole. The Indians called it the Firebird, some people know it as the Golden Robin, and others call it the Hang-nest. It is said to have received the name "Baltimore Oriole" in the following manner. The first Lord Baltimore was so delighted with the colors of this bird when he came to plant his colony in Maryland, that he adopted yellow and black for his coat-of-arms and thus the bird was named for him.

BALTIMORE ORIOLE.
½ Life-size.

The Oriole's nest is "A Castle in the Air" as it swings and rocks in the breeze near the end of a long branch of a tall tree. Among all the nests in orchard or woods, it is the most noticeable. Generally it is in the form of a bag about six or seven inches deep, round at the bottom, and fastened at the top to a forked branch which keeps the nest open. It is made of almost anything that can be laced or woven easily, thin vegetable substances, yarn, twine, horse-hair, all well sewed together. The bottom is cushioned with vegetable down and hair, while the sides are so thin as to let air and light through them. Eggs, four to six, dull white, blotched with brown, 1.15 x .80 inches.

This wonderful nest is built by the female bird alone, though her mate would gladly help her to do it if she would let him. Evidently she thinks he is too fine looking, or too clumsy for such work. He, therefore, has nothing to do but to sing until the eggs have been hatched out. Then he joins in the task of filling the hungry mouths with various insects, which are the principal diet for both young and old. Olive Thorn Miller has well named young Orioles, "The Crybabies of the Bird World." Their call for food is stopped only when a parent arrives with a supply for them, and it begins again as soon as they have swallowed the morsel.

There is no time left for these birds to sing after the eggs are hatched. Indeed, few songs are heard from the Oriole from the end of June until the beginning of September. During this time the young have been raised and the parents have moulted. The male now resembles the female. About the middle of September the male, in his new dress and with spirits as gay and lively as when he came in May, gathers his full-grown family around him and departs for the sunny countries of the South.

BOBOLINK, REEDBIRD, OR RICEBIRD

MALE—In spring and summer, breast, wings, under parts and tail black; back of head and neck cream-colored; back and rump ashy white. In fall and winter, the male is like the female and the young which are yellowish-brown above, with pale streakings below. They arrive in May and leave the North in September. Length, seven and one-half inches.

Nest, made of grasses, on the ground, contains from four to six greenish-white eggs, .85 x .60 inches.

The Bobolink is a favorite bird with all and the special delight of the poets. A school reader would not seem complete without a song or story about the Bobolink. He comes out of South and Central America and the West Indies in spring, full fledged, in his handsome livery with large numbers of his male companions. The males precede the arrival of their plain mates by about ten days, and appear to be looking over the fields for suitable nesting places while they await the coming of the other sex.

The Bobolink is so vain of his appearance and manners that he seems to rely upon them as much as upon his song to win the affections of a mate. He poses and waltzes to the music of his own song before the one that he has selected for a wife, until she is charmed by his graces and attentions.

The nest of loose grass is built on the ground, usually in some meadow. While the female is sitting, the male bird will be seen near her upon a tree or fence where he pours out a joyous song of many different notes, that charms the ear of every listener. The singer appears to be overcharged with music which he is making a great effort to let out. The song is so

BOBOLINK.
¾ Life size.

varied and rapid that it seems like a medley produced by several birds singing together. Many attempts have been made to put his song into words, but few persons agree on the sounds which they hear. One phrase that is quite distinct may be written, *bob-o-lee, bob-o-ling, bob-o-link-e.* His happy song diminishes gradually and drops out altogether as the season advances to midsummer. About this time the male changes his dress and appears in plain brown like his wife and children. This suit he wears until the next spring when he again puts on bright feathers and takes up his old love song anew.

During their stay in the North, these birds live upon insects and the seeds of useless plants. About the middle of August, great flocks of them move southward together, stopping to feed on the wild-rice marshes of the rivers of the Atlantic coast. Here the gay Bobolink of the North becomes the fat, toothsome Reedbird or Ricebird of the South. Great numbers of them are killed for food during the few weeks of their migration. Unfortunately the rice fields of the South lie in the direct line of migration of these birds and during September they feast upon this grain causing a serious loss to the planters. By the end of October they enter tropical countries and winter as far south as the Amazon.

SCARLET TANAGER

MALE—Scarlet with black wings and tail. Female and young, olive green above and beneath; wings dusky. Length, seven inches.

Nest, in the woods, sometimes in an orchard, placed on a limb ten to twenty feet from the ground, loosely made of twigs and pieces of bark and lined with leaves of evergreens. Eggs, usually four, dusky white marked with brown, .80 x .65 inches.

This is one of the most brilliant birds seen in the United States. Coming out of Central and South America where it winters, this species spreads over the Northern States and Canada early in May. Arriving in the North about the time the trees put out their leaves and confining itself quite closely to the thick woods, it would be difficult to find this bird were it not for its bright colors and its cheerful song which is much like that of the Robin.

The male precedes the female by ten days during which time his call note of *chip chur-r-r* is constantly heard. Upon the arrival of a possible mate, which he soon wins by his graceful actions and cheery song, he retires to the deep woods, where, a horizontal limb being chosen as a site for a nest, the real business of bird life begins.

Sometimes the three or four eggs of the Tanagers may be increased by two or three from the Cowbird, that sly shirk of family cares. Both parents join in feeding their young and show great attachment to them. The male, shy and timid at all other times, will now expose himself to any danger in the protection of his family.

The olive-green dress of the female and the young birds

SCARLET TANAGER
Life-size

is in striking contrast to the bright scarlet of the male. This wise provision of nature renders the mother quite unnoticeable on her nest and tends to preserve the species from extermination.

The food of the Tanagers is insects with a little fruit now and then for variety. In August the male moults and takes on the colors of the female which he wears until the following spring when he again dons his scarlet suit. Early in September the family depart together for the South, traveling leisurely to the land of constant summer.

RED-EYED VIREO

Top of head gray margined with black; white line above the eye; wings and tail olive-green; under parts white; eyes bright red. Length, six inches.

Nest, pensile, composed of shreds of bark, rootlets, plant down, bits of wasp nests and paper. It is built about June 1st, being attached by the upper edge to twigs of trees from which it hangs down like a little cup. It may be found from five to thirty feet from the ground. Eggs, white, three to five, slightly spotted with dark brown at large end, .80 x .60 inches.

The Red-eyed are the most abundant of the many kinds of Vireos. Coming from the tropical isles and South America early in May, they are numerous in the Northern States and Southern Canada. Shady forests are most attractive to them, yet they frequent parks and tall trees about farms and gardens and enter cities and towns wherever trees are abundant.

They are strictly insectivorous in their habits and, therefore, very helpful. Throughout the entire day they search for insects and caterpillars on leaf and twig and limb of every kind of tree found in lawns, orchards and forests.

The song of this Vireo is cheerful and constant through all kinds of weather. John Burroughs says, "Rain or shine, before noon, or after, in the deep forest or in the village grove, when it is too hot for the Thrushes or too cold and windy for the Warblers, it is never out of time or place for this little minstrel to indulge his cheerful strain." Given in soft whistling tones with rising and falling inflections, the song suggests the bird's name, for it seems to say *vireo, vireo, vireo.* This is given without apparent effort and quite unconsciously, as the bird flits from tree to tree.

RED-EYED VIREO.
$\frac{9}{10}$ Life-size.

YELLOW WARBLER, OR SUMMER YELLOW-BIRD

MALE—Greenish-yellow on back; top of head and under parts golden-yellow streaked with brownish-red; the wings and tail darker, edged with yellow. FEMALE—Upper parts olive-green; lower parts bright yellow. Length, five inches.

Nest, made of grasses and wood fiber lined with plant down, fine grass and hair. Eggs, four or five, bluish-white marked with brown, .70 x .50 inches.

The Yellow Warbler reaches the Northern States about May first, having made a long journey by easy stages from Mexico and Central America where it winters. It leaves again for the South early in September. Many persons confuse it with the Goldfinch which may be easily known by its black wings and crown. These are entirely distinct species.

Like the Robin and the English Sparrow, the Yellow Warbler has little fear of man. It may be found in the woods, the fields, the orchards, the parks and the gardens. If there is a tree or a shrub on your premises, you may expect a daily visit from this friendly little creature as it searches here and there among leaves and branches for its food which consists of larvae, caterpillars and the eggs of insects.

While it is calling upon you, you may expect to hear a little song which aptly describes the singer itself, for it seems to say, *sweet, sweet, sweet, sweetie.* By gentle treatment you may induce this bird to build its nest in your shrubbery or trees where you can watch the family for many days. A contribution of cotton batting for nest-lining will be gratefully accepted. A shallow dish fastened to a tree and supplied

YELLOW WARBLER
♀ Life-size

daily with fresh water for drinking and bathing purposes, will hold the Warblers to your grounds and attract many other birds as well.

The remarkable intelligence of the Yellow Warbler is shown in the plan by which it often avoids the task of hatching the eggs laid in its nest by the heartless Cowbird. Being too small to remove the unwelcome egg, it frequently bridges its nest and builds a second story above and upon the first, thus leaving the strange egg unhatched. An invasion of the second nest by the Cowbird sometimes follows, when the addition of a third story may result. If, however, the Warbler has laid some of its own eggs before the Cowbird comes to its nest, it may decide, after an excited discussion of the matter with its mate, to hatch all the eggs together rather than desert its own. Few of the other small birds have either the wisdom or determination of the Yellow Warbler, and hence they accept the burden of raising Cowbirds without realizing the fraud practiced upon them.

BIRD NOTES

MARYLAND YELLOW-THROAT

MALE—Olive-gray on head and olive-green in remaining upper parts; a broad, jet-black band across the forehead, cheeks and sides of the head; throat and breast bright yellow shading towards white underneath. The female lacks the black mask. Length, five inches.

Nest, bulky, on or near the ground and made of strips of bark, coarse grass and leaves, well-lined with fine grass and rootlets. Eggs, three to five, white, spotted with light brown, .70 x .55 inches.

This Warbler is found in wet, bushy pastures and swampy woods having abundant undergrowth. Occasionally he nests in the garden or near the house where he is quite content if undisturbed. He is devoted to his mate and her birdlings, often twittering in soft tones to them as he leads them into dense thickets in search of food. On being approached, he flies from bush to bush, always being just far enough before you to keep well-concealed in the foliage. If you are near the nest, an oft-repeated *chit, pit, quit,* will be sounded by him, but if the bird is at some distance from you, you may catch his song which some people interpret as, *I beseech you, I beseech you, I beseech you.*

The color of this bird is so marked and his song so sprightly that he takes a high rank among the summer residents. He is common in the Eastern and Middle States, arriving by May first and remaining until October fifteenth when he goes to the Gulf States and southward to winter. Like all the other Warblers he is a friend of the farmer, destroying troublesome insects and never doing harm to the products of the fields. The nest of this bird is often invaded by the Cowbird.

MARYLAND YELLOW-THROAT.
½ Life size.

AMERICAN REDSTART

MALE—Upper parts, throat and breast black; belly white; sides of breast, part of the wings and tail reddish-orange or flame color. FEMALE—Olive-slate, where male is black, and dull yellow instead of orange; bill and feet black. Length, five inches.

Nest, strips of bark, leaf stems and down compactly woven together and lined with grass, horse-hair and rootlets. It is firmly saddled on a limb or wedged in a crotch of a small tree, from five to twenty feet above the ground. Eggs, four to five, dull white, spotted around the larger end with brown or lilac, .65 x .50 inches.

This bright, beautiful bird comes north from the tropics early in May and returns again in September. Though confined to the woods during the mating season, it is often seen about the orchards and gardens both before and after that period. Sometimes the nest is built in an apple tree near a farm-house.

This bird belongs with the Warblers. It lives principally upon insects which it takes like a Flycatcher. From the top of a tree, it will launch into the air and snap up a passing fly or gnat with the skill of a Wood Pewee, and then return again to a branch. But only for a moment does it rest. With neck outstretched and tail waving like a fan, it runs along a limb for a few feet and plunges into the midst of a swarm of insects floating far below. The repeated snapping of its bill among them proves most clearly what it is doing in these wild charges. Being an industrious searcher also for the caterpillars that feed upon the leaves, it is a true protector of the forests.

AMERICAN REDSTART.
Life-size.

The Redstart is as active and jaunty as a butterfly, and its life seems a continuous play-spell. Whether dancing about on a limb or flitting from bough to bough, its every movement is grace itself. The orange and black of its plumage contrasts perfectly with the green leaves of the trees; and its musical song, much like that of the Yellow Warbler, forms a fitting accompaniment to its happy life.

WOOD PEWEE

Dark olive-brown above; head very dark; lower parts whitish tinged with yellow; tail and wings dusky; two indistinct wing-bars; slight crest. Length, six and one-half inches.

Nest, saddled on a horizontal branch twenty feet up; composed of twigs and grass, lined with moss, grasses and down, and often covered with lichens. Eggs, three to four, creamy-white with brown spots wreathed about the larger end, .70 x .50 inches.

The Pewee is a true Flycatcher. Perched on the dead branch of a tree, it waits for a winged insect to come near. Suddenly the bird rises on the wing and dashes off a few feet after a gnat, fly or bug which it captures with a snap of the bill. Turning quickly with a flourish, it is back again on the same perch in a moment. Here it will again settle into a condition of seeming indifference to everything about it; but it is, nevertheless, thoroughly awake, for in the next instant, it is off again for another hapless insect. This feat is repeated many times from the same spot hour after hour. Indeed, when one of these birds has found a branch to its liking, it may perch upon it day after day to watch for insects.

While waiting, it utters a low plaintive cry of *pee-a-wee, pee-a-wee,* which is long drawn out. This is among the first bird-notes at daybreak and the last at nightfall. Even in the heat of noonday when most other birds are silent, the sweet, sad song of the Pewee is heard. The bird is sometimes found in a shady orchard but its favorite home is the deep woods where it usually nests.

After wintering in Central America, it is a late migrant,

WOOD PEWEE.
⅞ Life-size.

for it does not reach the North until the end of May. It raises but one brood which is not hatched before the last of June. It remains North until the last of September.

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