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BIRDS and NATURE

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1905

IN NATURAL COLORS

FORTY ILLUSTRATIONS BY COLOR PHOTOGRAPHY

A GUIDE IN THE STUDY OF NATURE

VOLUME I.



EDITED BY WILLIAM KERR HIGLEY

CHICAGO

A. W. MUMFORD, PUBLISHER

378 Wabash Avenue

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IN NATURAL COLORS



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BIRDS AND NATURE

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BIRDS AND NATURE.

ILLUSTRATED BY COLOR PHOTOGRAPHY.

THE SPACIOUS FIRMAMENT ON HIGH.

The spacious firmament on high,
With all the blue ethereal sky,
And spangled heavens a shining frame,
Their great Original proclaim.
The unwearied sun, from day to day,
Does his Creator's power display,
And publishes to every hand
The work of an Almighty hand.

Soon as the evening shades prevail,
The Moon takes up the wondrous tale,
And nightly to the listening earth
Repeats the story of her birth;
Whilst all the stars that round her burn,
And all the planets in their turn
Confirm the tidings as they roll,
And spread the truth from pole to pole.

What though in solemn silence all
Move round the dark, terrestrial ball;
What though no real voice nor sound
Amidst their radiant orbs be found;
In reason's ear they all rejoice
And utter forth a glorious voice;
Forever singing, as they shine,
"The hand that made us is divine."

—JOSEPH ADDISON.

THE AUSTRALIAN GRASS PARRAKEET.

(*Melopsittacus undulatus*.)

This beautiful little bird is not only one of the prettiest, but is also the most common and best known of the smaller parrakeets. It is the Budgerigar—a word which means pretty bird—of Australia, where it is widely distributed and quite common. It is quite closely related to the ring-necked parrakeet, which the naturalist Cuvier thought was probably the first of the parrot tribe to become known to the Greeks and Romans. It is a native of India and a portion of China, and may have been introduced into southern Europe at the time of the Indian conquests of Alexander. The ring-necked parrakeet possibly is also the bird to which Pliny referred in the following passage: "But above all, there are some birds that can imitate the human voice; the parrot, for instance, which can even converse. India sends us this bird, which it calls by the name of 'sittaces;' the body is green all over, only it is marked with a ring of red around the neck. It will duly salute an emperor, and pronounce the words it has heard spoken; it is rendered especially frolicsome under the influence of wine. Its head is as hard as its beak; and this, when it is being taught to talk, is beaten with a rod of iron, for otherwise it is quite insensible to blows. When it lights on the ground it falls upon its beak, and by resting upon it makes itself all the lighter for its feet, which are naturally weak."

The bird of our illustration belongs to the sub-family of the parrots known as the broadtails, a group of birds confined to Australia, New Zealand, New Caledonia and the Society Islands. The parrots of this group are called the broadtails because of the breadth of the feathers of the tail. The Australian Grass Parrakeet differs from nearly all the other species of the group in having

the ends of the elongated feathers of the tail more attenuated. This species also bears other common names, such as the Australian Love Bird, the Undulated Grass Parrakeet, and the Shell Parrakeet.

The sexes are nearly alike in coloration, but the male may be distinguished from the female by the dark color of the cere, or membrane at the base of the upper mandible of its bill, that of the female being of a light brownish cream color. This Parrakeet is said to be very abundant in the vicinity of Adelaide, Australia, where it may be seen in large flocks, either perching on the gum trees or feeding on the ground. In its wild state the seeds of grasses form its principal food, though it will also eat other seeds. Because of the nature of its food the parrakeet seizes it with its beak and does not gather it with the feet, as do many other species of parrots. It is said that no nest is built by this species, but that the eggs are laid in holes of trees in which no lining is used.

The male's song is a sort of warble which is not entirely free from melody, and is uttered quite constantly during the day. In many localities this Parrakeet is a popular cage species and it breeds freely while so confined. While readily tamed, it is said that this little Parrakeet "is always apt to bite severely: while it is also an undesirable inhabitant of an aviary, on account of its propensity to attack and disable smaller birds."

At times these little birds become greatly attached to those who care for them. A gentleman who carried one of these Parrakeets from Australia to England, says the bird suffered greatly from the cold and change of climate. It was protected by a kind-hearted weather-beaten sailor, who kept it warm and comfortable in his bosom. It was not transported in a cage, but roamed at will



AUSTRALIAN GRASS PARRAKEET.
(*Melopsittacus undulatus*).
Life-size.

about the room, enjoying greatly at times, a ride on a cat's back. At meals he perched upon his master's shoulder, picking the bits he liked from a plate set before him. If the weather was cold or chilly, he would pull himself up by his master's whiskers and warm his feet by standing on his bald head. He always announced his master's coming by a shrill call, and no matter what the hour of night, never failed to utter a note of welcome, although apparently asleep with his head tucked under his wing.

THE BIRDS OF AMERICA.

I shall not greet your birds at home,
Their songs are not for me;
Among your woods I may not roam,
Your flowers I may not see.

And yet I find them in your books,—
Bird, blossom, wood and field,
And sunny spots and sheltered nooks,
Before my eyes revealed.

Your meadow-larks melodiously
"Sweet o' the year" proclaim,
Your yellow-throat cries "witchery,"
"Bob-white" repeats his name.

I see your swallows on the wing,
Your sparrows in the grasses,
Your orioles' hanging nests, that swing
To every breeze that passes.

I hear your blue-bird's warbling note,
And in your garden-bowers
Behold your flashing ruby-throat
Hang pois'd before the flowers.

I watch your robin on the ground,
Your kingbird in the air;
Your singing bob-o-links abound,
Your wrens peep here and there.

Your chic-a-dee, that dares to stay
When summer-birds are gone,
In sober suit of black and grey
Through winter-woods flits on.

And when your pages I forsake
And go my ways to bed,
Your birds still flutter on and make
Sweet music in my head.

—HENRY JOHNSTONE.

AN AUNT JANE STORY.

SOME CURIOUS INSECTS.

PART I.

Howard and Edith had been busy all the morning helping Aunt Jane smoke the house plants. The rose bushes were covered with little green creatures, which must be destroyed, or there would be no roses for Easter. To reward them for their efficient help, Aunt Jane promised to give them a little talk about insects that very evening.

It was scarcely dark before all the children were gathered in the library.

"Aunt Jane," cried Bird, "do begin with the bee. Howard says it is too common—that you will only talk about wonderful insects tonight." "That was my intention," Aunt Jane replied, "but our commonest insects are curious, so it may not be amiss to begin with some of them. Now, what do you all consider curious about the bee?"

"His sting," cried John, "and the way he can poison one with it."

"His skill as a geometrician," said Howard; "I don't know of another insect with such a head on him as the bee,"

"I think the bee is a brave little knight, all clad in armor of gold and jet," exclaimed Alice.

"The pollen bags are 'too cute' for anything," chimed in Bird.

"But it seems to me," responded Aunt Jane, "that the bee is most wonderful in that he is a chemist of such rare skill, that the nicest scientist can not analyze the honey so as to tell how much is due to the bee, and how much to the clover."

"Is not the ant quite as remarkable as the bee?" Alice inquired.

"Her architectural skill is certainly very great," was the response.

"It has been estimated that the ant, if allowance be made for difference in size, surpasses man in architectural achieve-

ments, and its lodging houses dwarf the pyramids. The white ants of Siam construct hills which serve as houses, which are sometimes fifteen feet high, and thirty or forty feet in diameter. Often upper chambers are made in the tops of trees, by running tunnels from the base of the ant hills to the tree top, where the dead boughs are enclosed with the plaster."

"Why do they make the upstairs in the tree top, Auntie?"

"The aerial chambers are for purposes of concealment, while the ants work upon the dead boughs. But the most remarkable thing about ants is their social organization. They live in large communities, have houses, barns, yards and fields; they keep domestic animals, have pets, own slaves, entertain guests, engage in amusements and pursue various occupations such as engineering, building, agriculture, gardening, hunting, and fighting."

"Dear me," cried John; "the next time I meet an ant I'll take off my hat to him. Who would have thought he was such a business fellow?"

"How do agricultural ants farm?" Alice inquired.

"They keep patches of rice free from weeds, harvest the grain, put it in their barns, and husk it for the sake of the oily substance which they lick off the grain."

"You were in fun when you said ants keep domestic animals?"

"By no means. It may be truthfully asserted that they keep cows. There is a variety of aphides having two small tubes on the under side of the body which exude tiny drops of sticky sweet fluid, which ants, catch as it falls and eat.

They carry the aphides to their nests, and take good care of them."

"You said they had pets, guests, and slaves!"

"Yes; a favorite pet of theirs is the blind beetle, which visits them in their nests, and which they carefully feed. Lubbock says it is a well established fact that one kind of an ant enslaves another, and that the slave-keeping ants lose their habits of industry, and degenerate. Of all varieties of ants, perhaps none is more curious than the 'Parasol Ant.'"

"Auntie, do you mean that she really does carry a parasol?" cried Madge, in surprise.

"Yes, the leaf-cutters carry pieces of green leaves, holding them in such a way that they look as if out walking with parasols."

"What do the ants do with the parasols when they reach the nest?" Edith inquired.

"It was once thought that the leaves were reduced to pulp and used as cells for the young; but it is now thought probable, that when this mass of leaves begins to decay, it forms a hot-bed on which ants grow mushrooms, of which they are exceedingly fond. Ants are, therefore, gardeners as well as farmers. There are ants who act as nurses and care for the sick. Some ants are very war-like, while others can not be induced to fight."

"But, Aunt Jane, you said they had amusements; now, please describe their *ant-ics*," demanded Howard.

"They have a thousand facets on each side of the head; the power of vision is therefore very good. With many eyes to spy they play 'Hide and seek' with spirit, and besides this game they practice various gymnastic exercises."

"But, Auntie," John inquired, "what is the very nicest thing the ant does?"

"In summer she not only lays up her food for winter, but she cuts the germ of every grain to prevent sprouting, which would spoil the store of food. The perseverance of the ant is remarkable; you school-children should take note of it as perseverance is the road to success. I once saw some ants trying to drag the dead body of a wasp across the floor. They succeeded very well, until it fell into a crack. After trying

for some time to move it on, all the ants but one gave it up and ran away. The remaining one tried again and again.

"At last she hit upon the plan of pulling it back instead of forward. She found that this could be done, as the crack was lower on that side; so she ran and called the other ants back. They came and pulled out the wasp, and started to carry it higher up, where the crack was not so deep. Unfortunately I became so excited, that I drew too near and frightened them away just as success was about to crown their endeavor."

As Aunt Jane paused at this end of her story, Howard cried, "Do take the locust next, for they say it has 'W' and 'P' for War and Peace on its wings. I mean to look and see if this is true some day."

"I hope you will," Aunt Jane replied. "It is always well to test the truth of superstitious sayings. The Arabs make the locust say, 'We lay ninety-nine eggs; were the hundredth put forth, the world would be ours.' There is a fanciful resemblance in the locust to many creatures. It is said to have the head of a horse; its body is like a scorpion; it has the horns of a stag, the hip of a camel, the legs of a stork, the wings of an eagle and the tail of a dragon."

"Are beetles curious in any other way?" John inquired.

"Yes indeed," responded Alice, "for they were once held in great honor by the Egyptians; but, Auntie, how large are beetles usually?"

"They vary in size: some varieties are four and a half inches long, while others are the size of a period. They are provided with scales, horns, spines and pointed teeth. In color they vie with flowers and minerals, are often marked in the most curious and diversified ways, resembling mountains, rivers, clouds, as well as imitations of markings on birds and flowers."

"Please tell us a story about them," pleaded Alice.

"Very well. I once read a Japanese fable which said that there was formerly a beetle so beautiful that all the other night flies fell in love with it. The beetle was disturbed by the presence of so many suitors; so, in order to get rid of them, and also as a trial of constancy, it

ordered them all to go and bring fire. They obeyed, and to this day they still visit lamps and candles, and burn themselves for love of the cruel beetle."

"Aunt Jane, tell us of the origin of the saying, 'As blind as a beetle;' are beetles usually blind?" inquired John.

"No; but they cannot easily change their direction when flying, so they often come in contact with other objects, and thus have the appearance of blindness. The aquatic beetle has its eyes divided in such a way that it can see down into the water, and also up into the air.

"The 'Dancing Beetle' has a round, little body, like burnished metal, and it spends its life in a mazy dance, so great is its delight in motion. The 'Kangaroo Beetle' has very long legs and very thick thighs, so he looks like a gentleman of the old school, dressed in knee breeches. The 'Stag Beetle' has a little gold-colored brush of hair on his legs, with which he cleans his antennæ. He will amuse himself when tamed, by tossing about a ball of cotton with his horns."

"How funny he must look," exclaimed the younger children. "Is there anything else beetles can do?"

"Yes, one kind saws off twigs from trees. The 'Dor' or 'Clock Beetle' tries to tell the time of day; at least, he makes a drowsy hum as monotonous as the tick-tock of a sleepy, old clock.

"The 'Harlequin Beetle' has a gay, parti-colored dress, and is the 'dude' among beetles.

"The 'Bombardier Beetle' has a volatile fluid, which, upon discharging, evaporates with a detonating sound. As he can fire off several volleys successively, the other insects must stand in great awe of his warlike accomplishments.

"Many beetles destroy insects injurious to vegetation. The work of those who act as grave diggers and scavengers is very useful. Like fireflies, some beetles have a luminous secretion. Ladies, in tropical countries, confine such under gauze, about their heads and thus add great splendor to their attire. The wingcases of some varieties make exquisite jewelry."

"Auntie, please tell us what it is that makes the fireflies shine," cried Madge.

"The luminous substance is composed of albumen and phosphorus which, combined with the oxygen the insect breathes, makes it shine."

"I don't know what such big words mean," complained Madge. "Please tell me so I can understand. Why is it that the fireflies don't shine in the daytime?"

"I know, I know" shouted Bird; "I'm learning a speech to recite about it, on Friday, at school. It says—

"Oh, firefly of wondrous ray,
Why do you never salute us by day?
Deep in the dark
I have a background for showing my spark;
But if I try to abolish the sun
Who of all mortals will see me? Not one."

"Stars shine all the same in the daytime," said John; "only we can't see them for the sun; but I'd like to hear more about these living lamps."

"We shall be compelled to leave the subject for the present as the clock is striking nine. Perhaps, if you are not tired of hearing about 'horrid bugs,' as I often hear you call them, we will have another evening devoted to them."

"Oh, Auntie," said the repentant children, "insects are such curious little creatures, we will never call them names again—never!"

BELLE PAXSON DRURY.



RESPLENDENT TROGON.
(*Pharomacrus mocinno*).
 $\frac{3}{8}$ Life-size.

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THE RESPLENDENT TROGON.

(*Pharomacrus mocinno.*)

The Trogon family consists of eight genera, five of which are found only in Central and South America and in the West Indies; one is confined to Africa and two to the islands of Java and Sumatra. This family is notable for the brilliancy and softness of the plumage, and there are few birds which will excite as much admiration as does the Resplendent Trogon.

The skin is so singularly thin that it has been not inaptly compared to wet blotting paper, and the plumage has so light a hold upon the skin that when the bird is shot the feathers are plentifully struck from their sockets by its fall and the blows which it receives from the branches as it comes to the ground.

Its eggs, of a pale bluish-green, were first procured by Mr. Robert Owen. Its chief home is in the mountains near Coban in Vera Paz, but it also inhabits forests in other parts of Guatemala at an elevation of from 6,000 to 9,000 feet.

From Mr. Salvin's account of his shooting in Vera Paz we extract the following hunting story:

"My companions are ahead and Filipe comes back to say that they have heard a Quesal (Resplendent Trogon). Of course, being anxious to watch as well as to shoot one of these birds myself, I immediately hurry to the spot. I have not to wait long. A distant clattering noise indicates that the bird is on the wing. He settles—a splendid male—on the bough of a tree not seventy yards from where we are hidden. He sits almost motionless on his perch, the body remaining in the same position, the head only moving from side to side. The tail does not hang quite perpendicularly, the angle between the true tail and the vertical being perhaps as much as fifteen or twenty degrees. The tail is occasionally jerked open and closed again, and now and then slightly raised, causing the long tail coverts to vibrate gracefully. I have not seen all. A ripe fruit catches the Quesal's

eye and he darts from his perch, plucks the berry, and returns to his former position. This is done with a degree of elegance that defies description. A low whistle from Capriano calls the bird near, and a moment afterward it is in my hand—the first Quesal I have seen and shot."

Our illustration shows the gorgeous coloring of the male's plumage. The plumage of his mate is much plainer. Her breast is brownish and her bill is black instead of yellow. Her head is golden green, and the outer feathers of her tail are white with very regular bars of black. She does not possess the two elongated plumes of the upper tail coverts. The unlined nest of the Trogons may be found in cavities of trees.

The cries of the Trogon are various. They consist principally of a low note, *whe-oo, whe-oo*, which the bird repeats, whistling it softly at first, then gradually swelling it into a loud and not unmelodious cry. This is often succeeded by a long note, which begins low and after swelling dies away as it began. Other cries are harsh and discordant. The flight of the Trogon is rapid and straight. The long tail feathers, which never seem to be in the way, stream after it. The bird is never found except in forests of the loftiest trees, the lower branches of which, being high above the ground, seem to be its favorite resort. Its food consists principally of fruit, but occasionally a caterpillar is found in its stomach. The food of the Trogons, whether it consists of caterpillars, fruit or flying insects, is usually taken while flying.

All the Trogons are birds of moderate size, the smallest species being but little larger than a thrush, and the largest is hardly the size of a crow. In some of the American species of Trogons the plumage of the female birds is nearly as beautiful as that of the males. In other species, however, the females are dressed

in much plainer garb than are the brilliantly attired cocks.

Quezal, sometimes spelled Quesal, is the Spanish-American name for the Resplendent Trogon. The word is an abbreviation of the Aztec word *Quetzal-tototl*, a compound word of very appropriate meaning when applied to this Trogon. *Quetzal*, sometimes written *Cuetzal* refers to the elongated and rich green feathers of the bird's plumage; *tototl* means fowl. Although known some years before, the first scientific determination of this Trogon seems to have been that of the ornithologist Bonaparte in the year 1826. It was given the tech-

nical name by which it is now known in the year 1832, and its breeding habits were not fully known until 1860. Specimens of the Resplendent Trogon had, however, been taken to Europe very early in the nineteenth century, for the species was named from the study of a number of specimens on exhibition in the palace of the Retiro near Madrid. Specimens were also to be seen in the Edinburg Museum at a very early date, and in the sale of Bullock's Museum in 1819, one lot was catalogued as "The Tail Feather of a magnificent, undescribed Trogon." This tail feather probably was one from a Resplendent Trogon.

PLEASURE AND PROFIT IN OUR FEATHERED FRIENDS.

A most delightful winter's pastime is that of feeding the birds which call occasionally—daily, if they find it profitable to do so—in the trees and shrubbery about our homes. It is a joy to the purveyor and a highly appreciated favor to the recipients of his bounty, especially in a severe winter when their winter graneries are snowed under for weeks or months in succession. It is estimated that many birds have died during the last severe winter—died from starvation.

It has been my habit for years to make myself ready for callers early in the winter. I want to be there to greet the first comer, in order that I may be sure to keep them all through the bitter months of frost and snow. I hang out lumps of suet in the back veranda, an inverted butter-tub cover is hung high, out of the reach of trespassing cats, and upon this tray I place crumbs and Indian corn.

I have had for boarders chickadees, woodpeckers, white-breasted nuthatches always, sometimes jays and an occasional red-breasted nuthatch. One winter jays were conspicuous, coming singly, in pairs, and in half dozens—extremely handsome in their showy uniforms of blue, gray, black and white. They came daily within a few feet of the veranda—I scattered the corn for them upon the snow—and on one occasion a blue-coat

stalked across the veranda and greedily filled his mouth with the discarded kernels of corn from which the chickadees had eaten the life as only suited to the needs of titmice. The manners of the jays are certainly not above criticism, and yet they proved highly entertaining. Saucy and inquisitive, noisy and rude, their voices sometimes harsh and rasping, they are also amusing, original, versatile, and their voices are capable of sweet and ringing utterances. His common "Yah-Yah!" is forgotten if not forgiven when you hear his musical bell-like tones, clear and ringing in the crisp, frosty air of a mid-winter morning. The jay is a study of ever increasing interest and new surprises.

The woodpeckers ask only to be allowed quietly and leisurely to satisfy their appetites with suet and crumbs, then drop from their clinging perch and bound away on elastic wings to the woodland home across the snow mantled meadows.

Nuthatches are the embodiment of quaintness and grotesqueness, "wooden birds" one called them. They easily perform all sorts of acrobatic antics, clinging to the eaves head downwards, creeping in every direction with the agility of mice—"tree-mice" is no misnomer—squatting and sprawling when on the

floor or ground where they seem always at great disadvantage, awkward in the extreme. Their favorite feat is swinging on the clothes-line in the veranda. They clasp the line with their long claws, drop the body straight downward with the queer little head at right angles with the body and swing backwards and forwards with the vibrating line, in a most ridiculous fashion. They always fly at the approach of a human, with a nasal protest at the untimely interruption; but they invariably drive away the smaller birds.

For winsome ways, and happy tones, confiding glances and loving caresses commend me to the cheery, social, constant, all-the-year-round chickadees. In my first intimacy with them they would alight at my feet, on my head or shoulders, but on my hand never so long as there were crumbs on the tray. One morning I withheld the crumbs until they would take them from my hand, and therefore it was my daily delight to feed them in this way.

Only once did any other species allow me to touch it. A red-breasted nuthatch was clinging to the boarding at the far end of the veranda, while a chickadee clung to my fingers busy with his breakfast. Suddenly and straight as an arrow the little nuthatch shot the length of the veranda and alighted on the other side of my hand to share the lunch. It was so unexpected and so sudden that I was perfectly startled and supposed both birds would take alarm; but they evidently did not receive the shock and finished their crumbs as unconcerned as if I were a stump or a tree.

My experiences with these feathered guests I related to a neighbor, who was then suffering from an incurable disease. She, too, was a bird lover, and at once suggested to her thirteen-year-old boy that they should put out crumbs and suet in an apple-tree immediately before her window. In a few days she was enjoying the daily visits of jays, woodpeckers, nuthatches and chickadees.

How many hours the sufferer lay and watched her winsome guests, how much of pain and weariness was forgotten or

more patiently borne, because of this entertainment may be readily imagined. A few more hungry birds were cherished and helped through the frigid Vermont winter, and the whole world was a bit brighter for all who had a share in these daily experiences.

Nor was this all. The physician noticed with pleasure this unusual ministry to the patient, and that the winged attendants could do what he could not to beguile the painful hours, and he brought along as a supplementary service a volume of "Bird Neighbors" which was an added delight to the sick one. His "counsel" became interested also, and went home to try his hand at enticing "table boarders."

Not in vain to awaken in a stern old man, supposed to be hardened by scenes of suffering to the sentimental pastimes of idle hands, an interest in these tiny atoms of creation, and even a love for their guileless, winning manners and habits! So the current of interest broadened and deepened, sweeping before it outside circles and capturing new devotees; nor was it ended in the home band.

In the first snowy days of December all that remained of our friend was laid to rest—first, under smilax and carnations, fragrant hyacinths and callas, and then, under the spotless snow-wreaths by the riverside. Was it not fitting that even in that hour the feathered friends of the departed should come back to the trees about her home just as cheerily and blithely as ever, calling for attention? Ah, certainly; for the one who had most faithfully and constantly kept vigil in the sick room welcomed them all the more gladly because the absent one loved them, and said: "We will feed them in the maples this year (before the living-room of the family) where we *all* can watch them better."

Surely we all are made better as well as happier by our interest and care for the tiny birds of our woodlands and meadows, which are never too small to insure the Divine care and protection. "Your Heavenly Father feedeth them."

SARA ELIZABETH GRAVES.

THE YELLOW-THROATED TOUCAN.

(*Rhamphastus tucanus.*)

“Gaudy in plumage, and ungainly in appearance, these large billed birds are denizens of the tropical forests of Central and South America.” Some of the species of Toucans are also found nearly as far North as the Rio Grande River. According to Dr. Sclater, the Toucan family includes five genera and fifty-nine species of these birds, the size of whose bill, as compared with their bodies, gives them a most ludicrous appearance. Prince Maximilian has said that “the Toucans are very common in all parts of the extensive forests of the Brazils, and are killed in great numbers at the cooler portions of the year, for the purposes of the table. To the stranger they are of even greater interest than to the natives, from their remarkable form, and from the rich and strongly-contrasted style of their coloring, their black and green bodies being adorned with markings of the most brilliant hues—red, orange, blue and white; the naked parts of the body being dyed with brilliant colors; the legs, blue or green; the irides blue, yellow, etc.; and the large bill of a different color in every species, and in many instances very gaily marked.” The Toucan’s flight, in spite of its large and apparently heavy bill, is easy and not without grace. They fly without trouble among and over the trees of their native forests, and their notes, somewhat characteristic for each species, are short and unmusical. Like some of our own birds, they seem to find great pleasure in annoying the birds of prey, especially the owls.

The name Toucan is the Brazilian name for this group of birds. It had been used long before it was introduced into the European languages. Thevet was the first person to publish the name Toucan. In 1558 he published a descrip-

tion and a woodcut of the bird. A most interesting description of a Toucan is that of Oviedo, published in 1527. The following is a translation of a portion of the description taken from Willughby’s Ornithology: “There is no bird secures her young ones better from the *Monkeys*, which are very noisom to the young of most Birds. For when she perceives the approach of these Enemies, she so settles in her Nest as to put her Bill out at the hole, and gives the *Monkeys* such a welcome therewith, that they presently pack away, and glad they scape so.” The Toucans are spoken of in quite a large number of very early publications. This does not seem at all strange, for the strikingly peculiar characteristics of these birds must have excited the wonderment of the early visitors to the unknown forests of the western continent.

The Toucans are very loquacious birds and may often be located by their perpetual chattering. Their note or cry resembles the word “Toucano” and this is supposed to have been the origin of their name. It has also been argued that the name is derived from two Indian roots, the translation of which is nose of bone.

The nesting habits of the Toucans are not easily studied, for the eggs are laid in the hollow limbs and holes of very large and tall trees. While they are very fond of nearly all kinds of fruits, which form their chief food, they will also swallow insect larvae, reptiles and small birds with apparent relish. Their own flesh is said to be very delicate. On the ground they progress with a rather awkward hopping movement, their legs being kept widely apart. In ascending a tree they do not climb, but mount from one branch to another with a series of jumps, ascending to the tops of the very loftiest trees,



YELLOW THROATED TOUCAN.
(*Rhamphastus tucanus*).
 $\frac{1}{2}$ Life-size.

safe from every missile except a rifle ball. They have a habit of sitting on the branches in flocks, lifting their bills, clattering them together, and shouting hoarsely all the while, from which custom the natives call them Preacher-birds. Sometimes the whole party, including the sentinel, will set up a simultaneous yell so deafeningly loud that it can be heard a mile.

When settling itself to sleep, the Toucan packs itself up in a very systematic manner, supporting its huge beak by resting it on its back, and tucking it completely among the feathers, while it doubles its tail across its back just as if it moved on hinges. So completely is the large bill hidden among the feathers, that hardly a trace of it is visible in spite of its great size and bright color, so that the bird when sleeping looks like a great ball of loose feathers.

A naturalist writes of his observations in the haunts of the Toucans as follows: "We turned into a gloomy forest and for some time saw nothing but a huge brown moth, which looked almost like a bat on the wing. Suddenly we heard high upon the trees a short shrieking sort of noise ending in a hiss, and our guide became excited and said, 'Toucan!' The birds were very wary and made off. They are much in quest and often shot at. At last we caught sight of a pair, but they were at the top of such a high tree that they were out of range. Presently, when I had about lost hope, I heard loud calls, and three birds came and settled in a low bush in the middle of the path. I shot one and it proved to be a very large Toucan. The bird was not quite dead when I picked it up, and it bit me severely with its huge bill."

LADY-BIRDS.

The other day, idly poking with my umbrella at the base of a locust tree, I exposed to view the winter quarters of the largest colony of Lady-birds I had ever seen. Hundreds of them were crowded together, so sleepy that they paid no attention to my "Lady-bird, Lady-bird, fly away home;" or perhaps they resented the insinuation that they were not already in the coziest possible place. Indeed, I think they were, for the turf fitted up close to the bark and formed a perfect protection from the wintry winds.

In the early fall, the Lady-birds look up just such a nest, in which to hibernate, as the one I discovered, and they do not emerge from it until late in the spring. They lay their eggs on the underside of leaves, where the young larvæ are hatched.

The Lady-birds are pretty little insects—our familiar kind are a bright red with black spots—and they are useful as well. They feed upon fungi but are also fond

of the aphides that are so injurious to plants. In California the orange trees receive great injury from year to year from the "Scale," an insect which covers the trees, finally almost destroying them. The growers spray the trees but when once the enemy takes possession, find it almost impossible to free their groves. Now to the Lady-bird the "Scale" is a great delicacy; if her services could only be secured, while she and her family were being feasted, they in turn could do a great favor to the orange growers. This thought has occurred to the scientists of the Experiment Station of Southern California and already they have received from Australia several pairs of Lady-birds, very like our own species, but larger and better fitted to cope with the troublesome "Scale." These have been established on the trees and the result is being noticed. Let us hope they will like their new home and work, and that they will finally rid the trees of the dreaded enemy, the "Scale."

MARY LEE VAN HOOK.

SCANDINAVIAN FOLK-LORE OF BIRDS OF PASSAGE.

PART I.

While yet a young boy in Denmark, I became very much interested in the study and observation of birds, but the nomenclature in our natural histories did not always please me, as the names given therein often, as it then seemed to me, were made without due respect to the characteristics of the birds. This led me to collect and use what popular names I could find, and by recording the folk-lore told me regarding bird names, I soon became interested in the position the birds had occupied. I found that it required much study and patience to collect folk-lore, as much of the knowledge of past generations had become almost forgotten or had been changed. However, by comparison with folk-lore gathered by other collectors and in other countries, much of what is obscure and hard to understand is made clear and intelligible.

We find, however, that in our present generation there is not near the open eye for nature, that was present a few generations back, while yet the fancy and imagination of the people considered the forces of nature as expressions of the will of beings peopling every nook of ocean and brook, and every recess in the deep and solemn forests.

In Denmark, as in most other European countries, the common people were for years under the yoke in more than one way, but yet they had an open eye for, and lived on good terms with nature. When the peasant sighed under the yoke of bondage, he understood nature better than he often does to-day; then his ears were open to the coo of the cuckoo and the songs of the birds; he then was dreaming of flying, on the wings of the swallow, to the distant land in the far East. There, maidens spin gold; there, children play with golden apples; there,

grows the lily; there, sings the cuckoo; there, is joy and eternal spring.

Now, when the yoke no more presses on his shoulders, he has turned away from the poetical kingdom of nature, and nature becomes dead to him. The fairy no longer dances in the meadows; the river-sprite no longer plays the golden harp in the stream. Yet, I am glad to add that more and more of the common people are now beginning to open both eyes and ears to nature. It is a happy sign of the times to see so many people studying natural history; not from a systematic text-book, but from actual life; and especially by becoming comrades with the birds, or with some other branch of the great kingdom of beautiful nature, which has touched their fancy.

It is my object to give some idea of how rich is the natural history of the common people. I shall endeavor to give a picture in which a number of birds will be seen, and I hope it will give an idea of what is found in the Saga of the "Birds of Passage." In most cases I shall confine myself to the folk-lore of the North.

Let us imagine ourselves in Denmark in the latter part of June; the roses are in full bloom, midsummer-day has come, the nests are empty, trees and bushes are alive with young birds and the nightingale is no longer singing. It seems sad when the birds, one after another, cease to sing, and the forests become hushed long before the time of falling leaves. Why is it the nightingale sings but such a short time? On that question folk-lore has given many answers. I shall here give one from France. The nightingale once went to sleep under the fresh foliage of the grape vine, but when he awoke he was caught in a snare: a long tendril had

grown and twisted itself around his legs. Since then, the nightingale does not dare to sleep as long as the grapevine puts forth tendrils, and therefore he sings to keep himself awake. He asks the grapevine to hasten in growing, so that he may have peace to sleep again: Grow fast, grow fast! my eyes are so heavy. Midsummer-day has come; now the nightingale has peace to sleep again, and his song is no longer heard. The other birds sing yet, but the freshness of spring is no more in their song. The cook of the cuckoo is, however, unchanged; it sounds as when it first brought the message of spring to our ears. But it will not last long. When the cuckoo sees the first hay-stack, then his song is over,—then a sudden transformation takes place. The cuckoo is changed to a hawk and takes the life of his little servant, the bird that through the summer so faithfully has followed him from tree to tree.

On the Russian islands Runoe and Wormsoe, where yet the Swedish language is used, nothing is known of the cuckoo's transformation, but it is believed the cuckoo stops singing because he has a barley-corn in his throat. This is, however, a Slavic folk-lore. In the forest the fresh voice of the cuckoo is missing, but it is well that he stops when the grass is cut, otherwise he prophesies of hard times and poor harvest.

In August, the storks commence to gather in large crowds, and before migrating they hold court and administer justice. The one that has any complaint to make steps forward, and if his complaint proves true, judgment is given. As the storks have by no means abandoned capital punishment, they kill the guilty ones without mercy. An unfaithful spouse or consort must be prepared to die, for the storks are very zealous to maintain the sacredness of marriage. When they have seen the first barley-ear, they migrate, says the peasant. Then they journey to the Stork country; and there they are human beings. This can be seen from many stories both from Denmark, Scania (an old Danish province, now under Sweden), and Germany. Thus a man, who was on a long journey, was much surprised to see a long-legged gentleman come and pat him on the shoulder saying: "How do you do, Per?" And

the most remarkable thing was that no one had called him Per, since his good wife died.

"I guess you don't know me," said the long-legged gentleman. "No sir," the man replied, and was ashamed that he could not recognize the stranger. "Well," said the long-legged gentleman, "I have lived on your roof for many years." And then the man understood that it was a stork speaking to him.

The common people have always known, that large birds, as storks, cranes and wild geese migrate to other countries in the fall. This is evident from many proverbs: "When the crane is surety for the wild goose, they both leave the country." In Sweden they say, when discouraged and tired of all things: "I wish I were so far away as the crane is at Yule day."

It is quite different with the smaller birds. It is commonly thought that they become torpid. This in Denmark is believed of the swallow, the lapwing and the wagtail.

In Sweden they say that on Holy Cross day (September 14) the swallow is flying to the sea, and in Denmark, is found the same belief; but the swallow cannot sink before he has inhaled human breath, therefore he flies very near people in the fall. The fact that the swallows often gather around the lakes in large flocks about this time in the fall and disappear very mysteriously (they migrate during night and fly so high that no one can see them), has without doubt given rise to this belief. In Iceland the common tern or sea-swallow takes the place of the swallow. Of that, it is said that it is torpid from cross-mass in fall (September 14) to cross-mass in spring (May 3). The lapwing lies torpid in bogs and moors, and he holds a blade of grass in his bill. In Iceland they say of the golden plover that he lies torpid in caves in the rock with a branch in his bill, and he will die, when the branch is taken away, for from that he draws his nourishment.

Over all Scandinavia the wagtail is counted among the birds that lie torpid; in several places the same holds good for the starling and skylark, and in Iceland for the fallow-finch or wheat-ear.

The skylark, as they say in Sweden,

lies torpid in the stone heaps on his back and with spreading wings. If anyone turns him over, he will never more revive. While the birds that lie in torpor are finding their sleeping places for the winter time, the more hardy birds prepare for the coming winter. The mermaid sends out her small gray birds. They come by the thousands over the ocean from the East and feast on the ripe mast. The trees are black and the sun is darkened, so large is their flock. From this probably springs the thought, as the mountain finch in company with the chaffinch ravage the forests.

The jay begins to lay in provisions for the winter. He hides it here and there, in the ground, and in old trees, and in order to find it again, he notices how the clouds stand; but he cannot find it again, when the clouds have gone. It is therefore very hard for the jay to pull through the winter; but he does much good in the forests, where many a tree has been planted by him.

Soon the wild geese commence to migrate and:

When goose goes to sea
And the badger to his burrow,
Then the winter comes, not in pace, but in trot.

The days become shorter, and the farmer now thinks he can spare the one meal. In Jutland they say the wild geese fly away with the forenoon lunch in the fall, and bring it back again in spring.

Before the time of almanacs, they had the so-called runic calendars or Rune-staves, on which the days were marked by carved pictures. The 2nd day of November is on a Swedish Rune-stave marked by a swan flying away. When the swans fly away they believe in Sweden that the winter is at the door. "The swan has snow in the tail."

It is right to look after the flying birds of passage; a person can also send messages by them to distant countries, but one must never count them. If one counts a flock of swans, he will become insane. It is not allowed to point at them, just as it is not allowed to point at the stars. It is a sin to point, for then the birds will get lost, and the one who does it will get a withered finger.

No one knows whither the birds of passage fly, but one can get them to take all kinds of diseases along. In Germany they say that if a man has fever and is so lucky as to see a flock of migrating swans, then he only needs to shout:

The swans and the fever
Fly over the wild sea.
The swans come back
But the fever never more.

Similar things can be told from the North. In Scania it is said that when a piece of cloth, belonging to a sick person, is laid in the nest of the stork before he migrates, then he will, as a rule, take the disease along.

The birds of passage hurry to the warm countries; everywhere is uneasiness and longing; therefore, they say in Germany, that no children shall be weaned while the birds migrate, for then they will never have peace.

While the birds nesting in Denmark go farther south, the birds from the far North commence to come to spend the winter in a milder climate. The beautiful bullfinch and the motley snow-bird come with frost and snow, and sometimes, some one says every seventh year, the waxwing comes in large flocks. People are not glad to see him, for as with all rare birds, he indicates hard times, pestilence or war.

FRANTS P. LUND.



MANDARIN DUCK.
(*Aix galericulata*).
 $\frac{2}{3}$ Life-size.

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THE MANDARIN DUCK.

(*Aix galericula*.)

The Mandarin Duck occupies in China the same position that the wood or summer duck (*Aix sponsa*) does in the United States. "Woodland ponds and forest-bordered streams make a proper setting for the grace and beauty of these richly attired birds." While these words were applied by Mr. Chapman to the wood duck, they are fully as appropriate when used in a description of its sister species in the countries across the sea. The Mandarin Duck is a native of China, where it is held in great esteem, and the Chinese are not easily influenced to part with them, for they are very loth to have these birds pass into the hands of foreigners. Dr. Bennett, who had expressed a desire for a pair of Mandarin Ducks, received a letter from a friend in China who said: "I could more easily send you two live Mandarins than a pair of Mandarin Ducks." The Chinese look upon this duck as "a most striking example of conjugal attachment and fidelity." This strong attachment of the male and his mate for each other is well illustrated by an anecdote of a pair which were confined in an aviary. One day this aviary was broken open and the male bird was stolen from the side of his mate. "She refused to be comforted, and, retiring to the farthest part of the aviary, sat disconsolate, rarely partaking of food, and giving no attention to her soiled and ruffled plumage. In vain did another handsome drake endeavor to console her for her loss. After some time the stolen bird was found in the quarters of a miserable Chinaman, and at once restored to its mate. As soon as he recognized his abode he began to flap his wings and quack vehemently. She heard his voice and almost quacked to screaming with ecstasy, both expressing their joy by crossing necks and quacking in concert. The next morning he fell upon the unfortunate drake who had made consolatory advances to his mate, pecked out his eyes and so injured him that the poor fellow died in the course of a few days."

Though web-footed, the Mandarin Ducks have the power of perching and it is a curious sight to watch them on the branches of trees which overhang the pond in which they live, the male and female being always close together—the one gorgeous in purple, green, white, and chestnut, and the other soberly apparelled in brown and gray. This handsome plumage the male loses during four months of the year, from May to August, when he throws off his fine crest, his wing-fans, and all his brilliant colors, assuming the sober tinted dress of his mate. The summer duck of America bears a close resemblance to the Mandarin Duck, both in plumage and manners, and at certain times of the year is hardly to be distinguished from that bird. This foreign species has been successfully raised in the zoological gardens of various portions of the world. In such places, as a rule, the young have been hatched under a domestic hen, though the parent duck has been allowed to perform the duties of incubation in some instances. It is said that the eggs are hatched from two to three days earlier when placed under the care of a hen. Mandarin Ducks are not only greatly admired for the brilliancy of the male's plumage, but as well for their graceful carriage when swimming and their gentle dispositions. Their flight is rapid and easy, and they fly among trees with the same facility as does the American wood duck.

The color scheme of the plumage of this Chinese Duck would almost lead one to say that the bird was dressed with a studied attire. Mr. Hornaday has made the following comparison of the plumages of three of the most beautiful ducks, two of which are American. He says: "The pintail is to the wood duck as a well-gowned American woman is to a Chinese Mandarin." And again he says: "The wood duck needs no description. Among ducks it is equalled in gorgeous colors only by its nearest relative, the Mandarin Duck of China—a painted harlequin."

CORA BELLE.

Cora Belle is a gray African parrot and the greatest talker that ever you heard. Her mistress has owned her for over twenty years and would hardly know how to get along without her.

A number of years ago, the parrot was gone from the house four days and three nights. She then returned of her own accord and entered her cage. A more pleased bird than Cora Belle was, when at home again, would be hard to find.

Cora Belle not only talks, but sings, whistles, laughs and barks. She will say in very hoarse tones, "Cora Belle has got a cold," then cough and ask, "Have you got a cold?"

The parrot will eat nearly all kinds of fruit, pie, cake and meat, and she loves to gnaw a bone. In fact, she eats about everything that a person would enjoy. It is great fun to watch her eat a nut. She can manage peanuts very well, but other kinds have to be cracked for her. She will hold the nut in her claw and pick the meat out of the shell with her beak. Cora always eats her breakfast at the table perched on Mrs. Sweet's shoulder, and she will say "Cora's hungry, Cora wants her breakfast," all the while the meal is being cooked.

The first time she ever ate watermelon her mistress had it on the table. The parrot was perched on her shoulder and continually repeated, "Cora wants it, Cora wants it." Mrs. Sweet gave her piece after piece of everything on the table except the melon, but Cora threw it all upon the floor. At last her mistress said, "Well, Cora, you've had a piece of everything on the table except the watermelon, and I don't know whether you'll eat that or not," but she gave her a piece.

"That's what Cora wanted," the parrot said, but she did not seem to relish it very well.

Unlike most parrots, Cora Belle takes a bath in a dish. It is always taken on the condition that her mistress will remain in the room, and then it is done in a rather gingerly way as if afraid she might be drowned.

"Now let me see how pretty you can whistle," Cora will say, then she will begin to whistle, but will soon stop, saying, "Oh, you can't whistle at all."

She is very fond of dogs and is always delighted when one comes in the house. "Come pup, come pup," she will call and then ask, "Where's the cat? Where's the black cat?"

The moment a team drives into the yard, Cora will begin to holler, "Whoa! Back! Whoa!" and she will have a splendid time calling. She has little to say before strangers but she is not long in getting acquainted.

Cora has a handsome red tail and one of her friends will sometimes say, "Now I'll have one of those red feathers." The parrot knows what that means, and she will run and fly about the room with her friend in hot pursuit.

When her mistress is frying doughnuts the parrot will repeatedly say, "Cora wants cake, Cora wants cake." Mrs. Sweet will take one out of the kettle, break it and give her a piece steaming hot. The parrot will drop it into her water cup to soak and then will eat it. When in her cage, she soaks everything in the water cup before eating.

Cora goes to bed early and will always call, no matter if there are strangers present, "Cora wants go to bed, Cora wants go to bed. Kiss me good-night." Mrs. Sweet kisses her, then covers the cage with a dark cloth to keep her warm and to keep out the light, and Cora Belle is quiet for the night.

MARTHA R. FITCH.

THE HOMES OF BIRDS.

Birds' nests are not merely bunches of twigs or grass; they are neat structures carefully put together.

The yellow warbler makes her nest of fine grass and plant-down and lines it with a silky vegetable fibre, and it is very soft. On the other hand, the rude platforms of twigs, of the yellow-billed cuckoo and crow are comparatively rickety affairs.

Almost everyone has seen a field sparrow's nest. It is coarse looking from the outside, but as soft inside as that of the yellow warblers.

Meadow larks' nests are hard to find because of their concealment in the grass. My first sight of a meadow lark's nest was as the female flew a short distance in the air, and then fell back to earth again as if wounded. The nest was in a tuft of long, dry grass at the base of a sycamore tree, and it held five eggs. Four of these afterward hatched.

The goldfinch's nest is built on the same principle as that of the yellow-warbler, of plant-down, grass and vegetable fibre lined with thistle-down; it is placed from five to twenty feet from the ground.

The chestnut-sided warbler's is also a neat nest. It is composed of grass and a small amount of plant fibre and is lined with grass and hair. This nest is usually placed in a fork of three branches, about eight or nine feet above the ground.

The red-eyed vireo or preacher bird suspends her cradle on the tipmost end of the branch and hangs it in a fork. It is made of cedar bark, weed bark and sometimes birch bark, and is neatly lined with coarse grass.

The nest of the chimney swift is not soft, but very neatly shaped, the twigs being glued together with a slime which

the bird produces. Into this bracket four or five creamy white eggs are laid and, while sitting on the eggs, the female if disturbed, will slowly raise her wings and flutter a few feet down the chimney; if again disturbed, she will repeat the action.

Everybody is familiar with the hair-lined nest of the chippy, which is placed in trees, bushes or grapevines. I have two in my collection which show the preference for color which birds possess, one being lined with pure white horse-hair and the other with black. I have sometimes seen nests lined with brown.

A pair of flickers nested quite near to my home one year and by rapping at the bottom of the tree-stump, first the male would appear, give a cautious glance around and then fly heavily away followed by his mate. The nest of this bird is like that of all the woodpeckers, a hole drilled in the tree, slightly larger at the bottom and lined with powdered wood. The stump where these flickers lived was riddled with other woodpeckers' holes, which were inhabited by English sparrows. This accounted for the disappearance of the flickers some time later.

I missed them sadly, but soon was interested in a yellow-billed cuckoo which built in a thicket somewhat near the flickers' tree. The young cuckoo which hatched died when it was five days old. The parent either deserted it or was killed. I was very sorry for its death for I wished to watch it develop to maturity.

If people who are so fortunate as to have chippies nest in the vines, or phoebes under the eaves, will protect the nests, by watching and feeding the birds, they will soon make some faithful little friends.

LEON A. HAUSMANN.

THE RED-RUMPED TANAGER.

(*Ramphocoelus costaricensis.*)

Busy, contented, and shy,
Through the green shades you go;
So unobtrusive and fair
A mien few mortals know.

—BLISS CARMAN, "MIGRANTS."

In "The Auk," of July, 1893, Mr. George K. Cherrie, of the Field Museum, says of the Red-rumped Tanager.

"During my stay at Boruca and Palmar, (the last of February) the breeding season was at its height, and I observed many of the Costa Rica Red-rumps nesting. In almost every instance where possible I collected both parents of the nests, and in the majority of cases found the males wearing the same dress as the females. In a few instances the male was in mottled plumage, evidently just assuming the adult phase, and in a lesser number of examples the male was in fully adult plumage—velvety black and crimson red. From the above it is clear that the males begin to breed before they attain fully adult plumage, and that they retain the dress of the female until, at least, the beginning of the second year.

"While on this trip I had many proofs that, in spite of its rich plumage, and being a bird of the tropics, it is well worthy to hold a place of honor among the song birds. And if the bird chooses an early hour and a scheduled spot for expressing its happiness, the melody is none the less delightful. At the little village of Buenos Aires, on the Rio Grande of Terraba, I heard the song more frequently than at any other point. Close by the ranch house at which we were staying, there is a small stream bordered by low woods and underbrush, that formed a favorite

resort for the birds. Just below the ranch is a convenient spot where we took our morning bath. I was always there just as the day was breaking. On the opposite bank was a small open space in the brush occupied by the limbs of a dead tree. On one of these branches, and always the same one, was the spot chosen by a Red-rump to pour forth his morning song. Some mornings I found him busy with his music when I arrived, and again he would be a few minutes behind me. Sometimes he would come from one direction, sometimes from another, but he always alighted at the same spot and then lost no time in commencing his song. While singing, the body was swayed to and fro, much after the manner of a canary while singing. The song would last for perhaps half an hour, and then away the singer would go. I have not enough musical ability to describe the song, but will say that often I remained standing quietly for a long time, only that I might listen to the music."

The tanagers are an American family, having arboreal habits, and they usually possess very brilliant plumage. The family is represented by about three hundred and fifty species, nearly all of which live in the tropics where they wander through the forests in search of ripe fruits and insects. Some of the tanagers are said to be fond of rice and to consume large quantities.



RED-RUMPED TANAGER.
Life size.
(*Ramphocoelus costaricensis*).

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AMONG THE TREES.

THE PINE TREE.

Oh ye who love to overhang the springs,
And stand by running waters; ye whose boughs
Make beautiful the rocks over which they play,
Who pile with foliage the great hills, and rear
A paradise upon the lonely plain.
Trees of the forest, and the open field!
Have ye no sense of being? Does the air,
The pure air, which I breathe with gladness, pass
In gushes o'er your delicate lungs, your leaves,
All unenjoyed? When on your winter's sleep
The sun shines warm, have ye no dreams of Spring?

—WILLIAM CULLEN BRYANT.

Mabel was seated beneath the low-growing branches of a pine tree, on the bank of a river. Numerous other trees were growing at some little distance. The birds were flitting about and filling the air with their music, and she could hear the liquid notes of the oriole and catch glimpses of his brilliant plumage. She could hear the gentle murmur of the water at her feet, and fancied it was whispering sweet words of praise to the tall grasses on its banks, or telling the flowers how pretty they looked as it reflected their sweet faces in its clear waters.

Mabel, leaning her head against the tree, inhaled its piny odors, and listened to the singing of the birds as she watched the fleecy clouds floating lazily across the sky. Then patting the gray, mossy trunk of the tree lovingly, she said:

"What tales, dear old tree, you might tell if you could only talk."

"I can talk," she thought she heard the Pine Tree say, "but you must have ears or you cannot hear."

She smiled incredulously. How long she had known and loved that tree! How often, when a little child, she had gathered its needles to make beds and pillows for her dolls! She knew of a certain pillow on her window-seat against which she had often pressed her cheek on cold, stormy winter days, and closing her eyes, fancied as she inhaled its piny odor that it was summer and she was in her favorite nook.

"I have ears, Pine Tree," she said.

"Yes, but the right kind! If you have the 'ears of imagination' you can hear wondrous things as you sit here or wander through the cool depths of the woods."

"I think I understand," replied Mabel. "Speak, and I will listen."

"I shall first tell you some of the legends in connection with our great family, for you must know that we are a great and a numerous family. We are the oldest living representatives of the forests of the ancient world, and retain the simplicity of floral structure which marked the vegetation of those early times. Ages before man inhabited the earth; before insects were here to fertilize our flowers—in the paleozoic period—we were here," and he shook all his branches proudly, and tossed his great plumes.

"Our family name is Conifer, and consists of thirty-nine branches. All cone-bearing trees are members of our family. We are sometimes called Evergreen, but that is a misnomer, for two branches of our family, the Larch and the Bald Cypress, lose their leaves every autumn, and although I do not shed my needles, I fold them together in preparation for my long winter's sleep.

"You have heard of the Cedars of Lebanon, which Solomon used in the building of the Temple; they were relatives of mine." He paused, as if to fully impress her with the sacredness and grandeur of the office which they were called upon to fill. "There is still a little grove of

those Cedars—all that is left of that celebrated forest. Two of these trees are so old that it is claimed that they were alive and young, when the temple at Jerusalem was built. The wandering Arabs call them saints, and look upon them with reverence, claiming that they know more than man. The resin of these trees is fragrant, but so bitter that no insects trouble them.”

“That is very interesting, but the legends?”

“O, I had quite forgotten. Well, many years ago, in an Indian village, there lived ten Indian boys who were great friends. They would meet every evening at dusk and dance about one of their members who was a very sweet singer. One evening, they wanted to have a feast, but their parents would not let them as they thought it was very foolish; so the boys met as usual and danced about their singer. He sang more sweetly than ever that evening, and they danced faster and faster, whirling around in wild delight. He rose from the ground, his sweet voice floating out upon the evening air, and they followed, dancing and circling about him. Their mothers came out and called angrily to them to come back and they might have what they wanted. But the Indian boys rose higher and higher, and still the singer sang sweeter and sweeter until, looking back, he fell to earth, and became a pine tree. The trunk is the singer, and the branches are the dancing boys. That is why we sing so sweetly, we are always telling of the Indian boys who danced away into the clouds.” His voice had sunken to a faint murmur and seemed dying away in the distance.

As she stroked one of his cones which he had thrown into her lap, the maiden said,—“That was a lovely legend, dear old friend. Will you tell another?”

Then she thought she heard him say, “Do you see that tuft on my head like a feather?”

She had not, but was ashamed to tell him so.

“There is one there. An Indian once went to the Great Spirit to ask a favor. He had a desire to be very tall, taller than any other Indian in the land. This displeased the Great Spirit who thought

he should ask for something better—something that would do his people good. So the Great Spirit, in his anger, changed the Indian into a pine tree, and you may see his tuft of feathers on my head.

“I had an ancestor, a stalwart pine which has looked upon this country when the red man ruled here alone, when he roamed through these vast forests as King of this New World. This ancestor of mine was centuries old when your great Columbus sailed over the unknown seas to discover this land.” He paused as though he were thinking of that far off past, and Mabel was beginning to fear that his story was ended for that day. She sat quietly, and listening intently, she heard the wind toss his branches and his voice sounded like the far-off waves of the ocean as he continued:

“Another member of our family, the famous Cypress of Montezuma, grew in the garden of Chehultepec. It was one hundred and twenty-seven feet high, and about fifteen feet in diameter. Think of that when you try to put your arms around my trunk! It was a noted tree, four centuries ago, and is believed to be seven hundred years old.

“But that tree is a mere babe compared with a giant Sequoia which man has recently discovered. This patriarch among trees has a diameter of about thirty-five feet and reaches the height of four hundred and twenty feet. When these large trees were first discovered in 1852, the world rang with the wonderful news of these immense trees in the Sierras, and yet the largest one of those was only thirty feet in diameter and three hundred and two feet tall. It was said then. ‘So great is their height that it seems as if a man was standing on the topmost bough, his outstretched hand might pluck the stars from their places.’ The age of that tree was estimated to be two thousand years, while this patriarch is thought to be eight thousand years old. Can your mind grasp that? That monarch of the forest was venerable with age when all that you think of as ancient was in its infancy. Before Rome was, before Greece was, these giants were kings among trees. They struck their mighty roots into the ground and reared their

lofty heads to the kisses of the sun, centuries before Moses, the great law-giver, led his people out of Egypt. The storms of thrice two thousand years had beaten on their heads and rocked their mighty branches, before the gentle Jesus was born in Bethlehem of Judea.

"Empires and kingdoms, warriors and statesmen; the great, the good, have come, held sway, and passed into dumb forgetfulness; while these mighty trees have sunken their roots deeper and still deeper into the moist bosom of mother earth and drawn from her ever willing bosom, health, strength, and life."

He ceased speaking; his great plumes hung motionless as if with the burden of years, then resuming his family history, he said:

"Still another branch of our family, the Douglas Pine, reaches the height of three hundred feet and grows so straight that it is used for the masts of vessels. Think of the wonders of the ocean which they see! Think of the grandeur of the watery world during a thunderstorm! I fancy I can see the storm-tossed vessel, the huge waves lashed into fury until they froth like yeast. I can hear the heavy roll of the thunder and see the vivid forked tongues of lightning as they dart across the blackened sky, and that mystery of mysteries, the Fire of St. Elmo, as it plays about the mast."

Again he paused and Mabel sat wondering about the Fire of St. Elmo. Her book had fallen and lay on the dark brown needles at her feet.

"What book is that?" she thought she heard the old tree say.

"Why, Longfellow."

"Ah! that is the kind of book to bring here. He sings of some of my people. You know Hiawatha says:

Give me your roots, O Tamarack,
Of your fibrous roots, O Larch Tree,
My canoe to bind together
So to bind the ends together
That the water may not enter
That the water may not wet me.

"I always liked Hiawatha," said Mabel. "I will like it still better now that I know those were members of your family."

"The Larch tree is valuable for its turpentine, which it stores in great reservoirs near its heart. This turpentine,

is collected by boring holes into the tree and inserting little pipes, which conduct it into buckets, placed ready to catch it. It is beautiful clear turpentine, and ready for use. Did you ever rise early in the morning, just as the sun is tinging the eastern sky with saffron and lake, and look at the young shoots of those larches growing there? You will sometimes find them sprinkled with sweet white drops, which in some countries, is collected and called manna. Sometimes when a farmer finds a rough tract of land which yields nothing but coarse grass, he will plant Larch trees and the coarse grass gives place to fine, and the earth is reclaimed.

"The Pine was the sacred tree of the Germans. Another member, the Deodar—a Hindu word meaning 'tree of gods,' and by them held sacred—is found in the snowy Himalayas."

"Do go on, old Tree, I love to hear you talk. Tell me if this gray moss is of any use," and she began playing with some moss that she had pulled off his trunk.

Then he tossed his great branches gently, as if singing a lullaby and he seemed to say, "Years ago, when the red man roamed these forests, the Indian mother used to rock her baby in the trees. She would bind him with thongs to a rough bark, and hang him on a branch of a tree; and his tiny limbs would be swathed in moss pulled from our trunks. No white baby was ever better cared for in its linen and flannel than the red-skinned baby in his blankets of grey moss. A good Indian mother would gather bushels of that moss and we would lull the baby to sleep, singing sweetly and gently to him."

His voice sank to a murmur and Mabel fancied he was thinking of the Indian babies long since driven back by the onward march of the Paleface; then heaving a sigh, he continued: "You have never been in a pine forest. That is a sight worth seeing, the trunks rising straight and tall like Corinthian columns, the ceaseless murmur of the wind in the tree-tops, the soft, brown carpet of fallen needles, the subdued light and the stillness inspire one with reverence and awe. The branches spread out above, and are so interwoven that no matter how the

wind may war, nor how they may be tossed about, scarcely a breeze will be felt below; and the snow may fall and lie heavily upon them and none be on the ground beneath."

Again he paused. The sun was setting in the far-off west; the birds were flying homewards; a gentle, calm peace was upon the air. The maiden roused herself from her reverie and lovingly stroked the trunk of the White Pine. Still there was silence. A gust of wind shook the tree and it seemed to rouse from sleep.

"I recall another old legend which I think will please you. When this country was young and coins were scarce, the people were often forced to barter their commodities instead of selling them. The Indians had a sort of money called wampum, which was made of clam shells; and this strange sort of specie was likewise taken in payment of debt by the English settlers. Bank bills had never been heard of.

"As people grew more numerous and their trade with one another increased, the want of current money was felt. To supply the demand, the general court passed a law for establishing a coinage for shillings, sixpences and threepences. Captain Hull, of Massachusetts, was appointed to manufacture this money, and was to have one shilling out of every twenty to pay him for his trouble. As a result there was an immense amount of splendid new sixpences, shillings and threepences. Each had the date 1652 on one side and the figure of a pine-tree on the other and were called pine-tree shillings.

"The magistrates soon began to feel that the mint-master was having the best of the bargain. They offered him a large sum of money if he would give up that twentieth shilling; but he declared that he was perfectly satisfied, and well he might be, for in a few years his pockets, his money-bag and his strong-box were overflowing with pine-tree shillings. This was the case when he came into possession of his grandfather's arm chair, in which he used to sit and rest himself.

"Now it chanced that this mint-master had an only daughter, a fine, hearty damsel, and a young man named Samuel Sewell came courting her. This young man being of a good character, industrious in business, and a member of the Church, the mint-master very readily consented to the match. Especially was he pleased as the young man had said nothing at all about the daughter's portion.

"The wedding day arrived and honest John Hull arrayed himself in a plain coat, with buttons of pine-tree shillings, his waistcoat buttons were of sixpences, and the knees of his small-clothes were buttoned with silver threepences. When the marriage ceremony was over, the mint-master whispered to two of his men-servants, who immediately went out, and soon entered with a large pair of scales. The mint-master told his daughter to go into one side of the scales, which she did wonderingly, but without a question. Then the servants were bidden to bring a huge, square, iron-bound oaken chest, which, with great difficulty, they managed to drag over the floor. The mint-master took a key from his girdle and unlocked the chest; the ponderous lid was lifted, disclosing it filled to the brim with bright, new pine-tree shillings—his honest portion.

"The servants, as bidden, heaped handful after handful of shining silver coins into the other side of the scales, until, plump as his daughter was, she was lifted from the floor. 'There, son Sewell,' said the mint-master, as he seated himself in his grandfather's chair, 'Take this money for my daughter's portion. Use her kindly, and thank Heaven for her, as it is not every wife who is worth her weight in silver.'"

"Now," said the Pine Tree, "My old friend the Oak, has been quivering in every leaf, and pelting me with acorns, since I mentioned him in connection with the strong box. He no doubt thinks he has a share in this legend, and so he has; his is a great family, too, and perhaps if you come again and bring the 'ears of imagination' with you, he will tell you his family history."

EVELYN SINGER.



COCK-OF-THE-ROCK.
(*Rupicola crocea*).
♂ Life-size.

THE COCK-OF-THE-ROCK.

(*Rupicola crocea.*)

The Cock-of-the-Rock lives in Guiana, and adjacent regions, where its nest may be found among the rocks. T. K. Salmon says: "I once went to see the breeding place of the Cock-of-the-Rock; and a darker or wilder place I have never been in. Following up a mountain stream the gorge became gradually more enclosed and more rocky, till I arrived at the mouth of a cave with high rock on each side, and overshadowed by high trees, into which the sun never penetrated. All was wet and dark, and the only sound heard was the rushing of the water over the rocks. We had hardly become accustomed to the gloom when a nest was found, a dark bird, stealing away from what seemed to be a lump of mud upon the face of the rock. This was a nest of the Cock-of-the-Rock, containing two eggs; it was built upon a projecting piece, the body being made of mud or clay, then a few sticks, and on the top lined with green moss. It was about five feet from the water. I did not see the male bird, and, indeed, I have rarely ever seen the male and female birds together, though I have seen both sexes in separate flocks."

The eggs are described as pale buff with various sized spots of shades from red-brown to pale lilac.

It is a solitary and wary bird, feeding before sunrise and after sunset and hiding through the day in sombre ravines.

Robert Schomburgk describes its dance as follows:

"While traversing the mountains of Western Guiana we fell in with a pack of these splendid birds, which gave me the opportunity of being 'an eye witness of

their dancing, an accomplishment which I had hitherto regarded as a fable. We cautiously approached their ballet ground and place of meeting, which lay some little distance from the road. The stage, if we may so call it, measured from four to five feet in diameter; every blade of grass had been removed and the ground was as smooth as if leveled by human hands. On this space we saw one of the birds dance and jump about, while the others evidently played the part of admiring spectators. At one moment it expanded its wings, threw its head in the air, or spread out its tail like a peacock, scratching the ground with its foot; all this took place with a sort of hopping gait until tired, when on emitting a peculiar note, its place was immediately filled by another performer. In this manner the different birds went through their terpsichorean exercises, each retiring to its place among the spectators, who had settled on the low bushes near the theatre of operations. We counted ten males and two females in the flock. The noise of a breaking stick unfortunately raised an alarm, when the whole company of dancers immediately flew off.

"The Indians, who place great value on their skins, eagerly seek out their playing grounds, and armed with their blow-tubes and poisoned arrows, lie in wait for the dances. The hunter does not attempt to use his weapon until the company is quite engrossed in the performance, when the birds become so pre-occupied with their amusement that four or five are often killed before the survivors detect the danger and decamp."

OUR CATBIRDS.

In the sunny, sheltered corner of our south porch, hung for several weeks one summer, a cage containing a pair of northern mocking birds, or, as commonly known, Catbirds; and it was a constant wonder among our neighbors to see these birds—so shy and difficult to rear—apparently enjoying life to the utmost.

Contrary to their usual custom, a pair of these birds built their nest in a dwarf evergreen only a few steps from our front door, and hatched their young undisturbed by the multitude of noises in their vicinity. A few days before we thought the young birds were about to leave the nest, we procured a strong cage with wide waterproof cover and an iron ring in the top. When one day we saw two downy fluttering wee birdlings clinging to a bough of the evergreen, it was but a moment's work to catch them and put them in the cage ready for them. One end of a stout rope was tied in the ring in the top of the cage, the other end thrown over the limb of a huge apple tree close to the kitchen door, the cage carefully drawn up until the top touched the limb, the end of the rope wound round a hook driven in the body of the tree. There our birds hung, swinging fifteen feet high in the leafy canopy and flickering sunshine of the old apple tree. What a fuss the old birds did make while this was being done! In a very short time, however, they were feeding their young as unconcernedly as though they were still in the nest. First one and then the other would bring food, perch on the wide, projecting edge around the cage bottom, and fill the little bill that stretched wide and hungrily between the wires. They never made the mistake of feeding the same one twice in succession. One was a greedy little fellow and would have appropriated every morsel. One day he persistently kept pushing the other one aside after he himself had been fed and stood at the front of the cage in a fidget of impatience till the old bird returned. He pushed and crowded and persisted in

keeping in front of the other. Twice the mother bird flew down in a vain effort to reach her other birdling, and then perched herself on a near twig with the dainty bit still in her bill. The little one scolded and begged, all to no purpose. Finally he gave place to the other, who quickly received the coveted morsel, and sat down in the corner in an unmistakable fit of the sulks. After this a daily improvement in his table manners was noticeable. Every day the cage was lowered, cleaned and supplied with soft bread, berries and fresh drinking water; and, after the first few times, the old birds would wait patiently until the cage was again raised, and the young soon ceased to show any signs of fear. Food was put in the cage from the first, that it might be ready at any time when they should begin to feed themselves. It was a week or more before they discovered that the berries in the dish were the same things the parent birds gave them; and when one of them found out that he could help himself it was a matter for family rejoicing.

They were perfectly safe in the big tree, as the wires of the cage hung too far below the limb and afforded too slender a foothold for any marauding cats. Only once were we really alarmed about them. One sultry afternoon the air grew ominously still, and then, before we could get the housedoors and windows closed, a dense darkness swept down, shutting out the sunlight, and with a roar and rush and crash of thunder, the awful storm broke over us. In the hurry to make the dwelling safe we had entirely forgotten the birds, and as a flash of lightning cut across the blinding storm, I saw their little house swaying like a feather in the fierce blast. The storm was of short duration, and at the first opportunity I ran out, expecting to see them either drowned or dead from fright. Cuddled up on a perch under their little attic roof, I found them high and dry, and serene. Their little shelter had outridden a tem-

pest that had laid waste many a home, felled many a giant tree, and swept a path of destruction all about us.

After the parent birds had fed them untiringly several weeks we heard one afternoon a great commotion. The two young birds stood on the floor in the front of the cage, and the old ones faced them on a near limb. The bird tones and bird motions were almost humanly intelligible. First a series of coaxings in the sweetest tones the parents could utter, as they fluttered their wings, and tried every inducement bird language was capable of to the little ones to come out and follow them. Then, a reasoning with deliberate note and infinite patience, broken now and then by a sweet coaxing from the mother-bird. The little ones, meanwhile, watched them unconcernedly, with only an occasional flutter of tiny wings. Finally, the old birds broke into a storm of upbraiding, scolding and protesting, and then flew away, returning an instant after for a last persuasive twitter, and then departed on their long southern journey.

The young birds apparently never missed them; they had become so accustomed to feeding themselves that they took up housekeeping on their own responsibility without the least trouble. They were now transferred to a larger cage and hung in the south porch, and then given their first bath. Such a splashing and spattering and ducking followed! After their daily bath the cage was cleaned and food and drinking water put in. Earthworms were given once a day, and everything else from berries to a fresh cabbage leaf. The glimpse of a slice of melon put them in a perfect quiver of expectancy, and they fairly danced at the sight of berries. They soon became so tame that they would eat flies from the children's fingers, and "kiss" them when a ripe berry was held between the lips. We waited patiently for the first note of song, and one day overheard a soft musical gurgle and looked up to see one of them standing with its head on one side, and gazing at the other with such an air

of obvious wonderment as to where the noise came from, that it was laughable. It was very amusing to see them when first put out in the morning sunshine. They would stand on one foot, lean over so far as almost to lose their balance, stretch out one wing in a peculiarly helpless way, and open their bills to the widest extent. After a moment or so they would repeat the operation, standing on the other foot. Their aim was doubtless to warm the entire body, but anything more ludicrously idiotic than their appearance would be impossible to imagine.

And now comes the strange, but too true, part of this little sketch. Our birds were full grown, full fledged, perfectly bright and very active and playful. Owing to probably the almost entire lack of fruit in our section, all our wild birds disappeared full two months before their usual time; and not even a solitary robin was to be seen. One afternoon a few weeks after the departure of the parent birds, one old Catbird was discovered in a tree over the south porch, and facing the birdlings' cage. It made no motion to come near them, and seemingly paid no attention to them, and flew away in a short while. The next morning at sunrise one of our birds sat drooping upon the perch, and died before noon. Two days after, the other died, in spite of all our efforts to save it. The old bird was seen but the once, and no one could solve the problem of their strange death; but the appearance of that one bird, and the deaths so closely following it, increased the mystery. Certainly, if it was the parent bird that returned after so long a time, and, unable to leave her little ones captive, it showed a marvellous power of reasoning and mother-love that it would be a burlesque to call instinct. Who shall say that the heroic mother-love that led mothers of old to slay their children with their own hands, rather than see them live enslaved and dishonored, did not beat in the breast of this one of God's little "sparrows?"

S. FRANCES GILBREATH INGERSOLL.

THE GOLDEN PHEASANT.

(*Thaumalea picta*.)

“A merry welcome to thee, glittering bird!
Lover of summer flowers and sunny things!
A night hath passed since my young buds have heard
The music of thy rainbow-colored wings—
Wings that flash spangles out where'er they quiver,
Like sunlight rushing o'er a river.”

It is seldom that we find in nature so many excellent attributes combined in a single object as we find in the male Golden Pheasant. Graceful in motion and in pose, usually possessing an amiable disposition, and clothed with a wonderfully colored plumage, the Golden Pheasant seems to belong to a bird caste which includes none of its relatives, unless it be the Amherst's pheasant. While the colors of the Amherst's are less brilliant than those of the Golden Pheasant, they are more harmonious.

It is said that the native haunts of this beautiful bird are the mountainous regions in the western center of China, and westward along the same latitude. At a very early date it was introduced into Japan, whose people are noted breeders of pheasants. There it would seem that by careful selection forms have been produced, the colors of the plumage of which vary somewhat from those of the parent stock. Also at an early period the Golden Pheasant was introduced into Europe, where it is only found in aviaries. It breeds readily in confinement, and the young grow rapidly and are easily raised. Mr. Elliot says: “No bird is more suited, both as regards its gentle disposition and strong contrasting colours of plumage, to become an inhabitant of the aviary.” Mr. Elliot also says: “Nothing is more beautiful than to see a number of these birds scattered about upon a lawn, their active movements executed with much grace, while their scarlet breasts appear to great advantage against the bright green grass.”

The heads of the males of this species are ornamented with a beautiful amber-

colored crest of fine feathers. There is also quite an extensive ruff, which springs from the back of the head, and lies upon and hides the neck. The feathers of this ruff or cape are orange-red and tipped with a bar of very dark blue. This ruff may be greatly extended and when the male is courting the attention of the female, it may be spread out and brought over the face, or it may only be drawn to the side of his head which is exposed to the view of the bird which he desires to attract.

According to Mr. Latham, the Golden Pheasants are called in China Kinki or Kinkee, which means Gold Flower fowl or Wrought fowl. They are greatly prized by the Chinese, not alone for the beauty of their plumage and their elegant carriage, but also for the excellence of their flesh. They are said to be more delicate for the table than are the other pheasants, but their numbers are much too limited to be often seen in a cooked state. The feathers of the crest and ruff are much sought for by anglers for the purpose of decorating their artificial baits. These feathers are particularly used in decorating the gaudy hooks of Irish fishermen.

The female does not possess the magnificent colors of her mate. Her plumage is plain and of a reddish brown color, which is marked by spots and bars of a darker hue. Her tail, too, is much shorter than that of her mate. But little has been written regarding the habits of the Golden Pheasants in their native haunts. Our knowledge of them has been chiefly obtained from the study of the birds in pheasantries.



GOLDEN PHEASANT.
(*Thaumalea picta*).

$\frac{3}{4}$ Life-size. Tail somewhat shortened.

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JULIE'S KINDERGARTEN.

Little Julie and her brother Ned left home in the middle of winter to go South with their Mama. It was snowing and very cold when they kissed their Papa goodbye at the train. But when they reached their Uncle Robert's home, in Florida, they could not think it was winter any longer; the flowers bloomed everywhere out of doors, bright birds sang and flitted among the roses, and big butterflies, golden like the jessamine, floated from blossom to blossom.

Ned was quite as tired as his little sister, after their two days of travel; so, when the two had been kissed and welcomed by their Uncle and Aunt, they were quite ready for their warm baths and pleasant beds.

Next morning, Julie woke up and was dressed while Ned was still dreaming. He was awakened by hearing her clap her hands and cry delightedly: "O, Neddie, do get up quick and come here! There are just no end of Christmas trees standing out in front of the house. Uncle Robert must have had them put up because we were coming. They are big, and a most beautiful green, and they shine all over, but I can't see where the candles are. And they are already strung with rows and bunches of the loveliest oranges!" But the little folks were still more delighted when they learned that Julie's Christmas trees were real orange-trees, with the beautiful fruit growing on them. Ned was not slow to accept Aunt Bella's invitation to help himself to the oranges, and even Julie's small hands reached up and gathered one that grew on the lowest bough.

Uncle Robert's home was on Clear-water Harbor, perhaps the most beautiful of the small bays opening into the Gulf of Mexico. His big garden sloped down to a hedge of tall oleanders overlooking the bright water. Some steps led from the terrace where the oleanders grew to a strip of beach that was some-

times white and shining in the sunlight, and sometimes entirely covered by beating waves. Ned's mother explained to him how the tides come and go, and being able to understand something of this most wonderful fact in creation added greatly to the boy's enjoyment of the beach and the bay.

To the two children fresh from the city, there was unending delight in the freedom of the seashore, as well as its beauty. The wide stretch of waters danced before their happy eyes; the white sails came and went in the distance, while the white gulls came and went, either close at hand or far away, and now and then a great grey pelican or a screaming osprey would fly over their heads. When they played on the beach at ebb-tide, the shining sand was soft and dry, while beautiful shells were frequently found, left stranded by the last high tide. But to Ned, the best pleasure of the beach was crabbing; he was so fond of it, that Uncle Robert gave him a light crab-net for his very own, and the proud boy carried this to the beach as regularly as Julie did her bucket and shovel.

"Hush, Julie!" Ned would say, as they came down the walk to the terrace. Now, stand still behind the oleander-
limb until I can slip down and search for crabs. They might see you. Besides, you know you'll squeal when I land one, and that will make all the others hide."

Julie was at first very willing to stand there; she was slow to become acquainted with the crabs, or to enjoy any nearness to them.

"They've got so many legs and such different kinds, Neddie," she would say, depreciatingly; "and they can run so many ways at nearly the same time. Besides, I don't like the way they poke out their eyes at me. I'm glad to stay up on the top step until you run them all away."

And at first Ned did run them all away without making any captures; for you have to practice awhile before you can manage your net quickly enough to catch crabs. But by and by he could dip them up nearly every time, and would usually carry up half a dozen fine fellows in his pail to show to Uncle Robert.

In a short time, too, Julie became better acquainted with the crabs, and they no longer frightened her. She learned, then, to slip down to the beach as softly as Ned himself, and never to squeal out when he landed them; so her brother enjoyed having her close to him, to admire his skill in scooping the big fellows into his basket-net before they could glide out of reach in the deeper water. But one morning when the pair ran down to this favorite play-place, they saw a lovely little sailing vessel at anchor a short distance away and a light skiff putting out from it. In the skiff sat Uncle Robert and a big fellow who handled the oars. As soon as the boat was near enough, their uncle called out:

"Run and tell your Mama and Aunt Bella to put on their hats and jackets and come quickly. I am going to take all of you to Pelican Reef out in the Gulf."

A day of delights and wonders it was for all of them. The waters of the Gulf were calm and lovely, only a little rippled by the breeze that carried their boat smoothly on. In color, they were deepest blue, and Julie's eyes, big and wondering, looked like little bits of the same wide Gulf. The sea-birds flew past in great numbers, and kept both children in a constant state of excitement. The sailors cast anchor near Pelican Reef, and, as it was low tide when they reached here, Uncle Robert took the children ashore in the skiff. There was nothing wonderful about the Reef itself; it was only a long, narrow stretch of lime rock and broken shells, barren of any sort of vegetation. But it seemed very curious to Ned and Julie to watch the long line of pelicans, osprey, gulls, and cormorants, hundreds and hundreds, that fairly covered the Reef; to see them fly up, as if by one movement, at the approach of the boat, soon scattering and sweeping out of sight. Then it interested them,

too, to stand on the stretch of rock which was half the time above the water, and half the time hidden by it, half the time a station for sea-birds and half the time a menace to the careless boatsman or pilot who might strand his vessel on it. But the most interesting and exciting thing they saw during the whole day was a group of porpoises playing in the water not far from their boat. How the great creatures sported,—running, gliding, leaping into the air, plunging down, down to the very bottom of the Gulf, rising again spouting and blowing in the most amusing way, frolicsome as little children just let loose from lessons.

"O, isn't it funny?" exclaimed Ned. "And what a crowd of them, Uncle Robert!"

"Yes," said he. "But they are spoken of as a 'school', Ned, not a crowd."

"A school," cried Julie. "Why, aren't they too big to go to school, Uncle Robert?"

But he answered laughingly that porpoises never got too big to go to school, which was very funny to both the children. When the little trip was over, they both agreed that they could never forget any part of their delightful day, but would especially remember the porpoise school, and should tell Papa all about it when they got back home.

It was a few days after this that Julie came flying up the garden walk after Ned, who had started to the house for his toy boat.

"Come back, Ned," she cried, "come back quick, I've found a school, and it's a kindergarten!"

Ned ran back with her, making the least possible noise, and was as much pleased and excited as she was to see what appeared to his dazzled eyes a million tiny fish, all of precisely the same size, which was little larger than a pin, all sporting very near the water's edge. They darted about, little grey-green things, often whirling over and flashing the light from their silver sides, sliding, gliding, here, there, everywhere. O, what fun it was to watch them! When finally the wee creatures all trooped off together, moved by a common impulse, the children ran away to tell their mother. Uncle Robert, too, had to hear

of Julie's water-kindergarten as soon as he came home, and it amused him greatly. But when she began to look grave over his laughter, he took her upon his knee and told her a beautiful story of how the tiny fish of one size go about in kindergartens, as she had named them, playing and seeking food together, and keep-

ing near the shore; how the next size run together, and venture a little further out, seeking the deeper water, and the next in another school, and so on up to the great porpoises she had seen in the Gulf. It was such a beautiful story that the two children were glad again that Julie had found her water-kindergarten.

LEONORA BECK ELLIS.

IS IT TRUE?

Oh the bird-wings astir in the cedars:
The bird-wings that speed overhead:
The wings that sweep under the eaves and away,
Like the breath of a word that is said:
The wings that swing high in the poplars:
That stoop, with a sweep, to the grass
And circling rise to the far-away skies,
The cliffs of the mountain-pass:
Up, on, past rims of the rainbow:
Afar, through avalanche mist,
Past glacial heights to the clouds beyond—
To the clouds that the sun hath kissed:
Down, down to the turf in the forest:
To the pool hidden under the rock:
To the foam of the sea; to the beating sea;
To the breast of the rippled loch:—
Oh the bird-wings aglint in the sunshine;
Aglint in the rain and the sleet;
Undaunted they go like the winds, to and fro,
Their love-missions prone to complete.
But what means the wail through the forest?—
The dirge moaning over the leas;
The dirge through morass and through mountain-pass;
Mingled too with the wail of the seas?
Is it true that the bird cries of anguish,
The notes of the bird's dying call,
Must circle the world with their echoes—
The cries of of the birds as they fall?—
That man, with a stature so God-like;
A hand that can succor and save;
A love like a fire when it burneth,
Hath naught for the birds but a grave?—
Hath naught but an arrow, a missile,
And laughter, that sad winds repeat,
When wings that have swept midst the azure,
Lie broken and stained at his feet?

—GEORGE KLINGLE.

A NATURE PICTURE.

Nature is full of surprises to him who regularly strolls in the fields and woods. When a nature lover is taking his outing he always meets the unexpected. He sees some phenomenon once and once only, or something unusual or out of the ordinary, in bird, animal or insect life, or discovers them under conditions that never recur again. Last year I witnessed a remarkable bit of nature painting and a beautiful illusion, caused by lights and shades, the equal of which no artist could produce. In a valley below me was a large field of wheat, full grown but not yet ripened. A breeze caused the grain stalks to undulate like the waves of a lake. This motion, combined with a peculiar effect of lights and shades upon the green wheat heads, as they rippled up and down, caused a remarkable illu-

sion, so deceptive that one would feel sure that it was real water. It was an actual lake, with the sinuous waves coming to the shore in graceful undulations and beating upon the beach, the lights and shades giving to it the peculiar green color seen in deep water. The best attempt at a description would only convey a very inadequate impression of so rare a scene. It was one of the most beautiful sights that I ever had seen. The deception was complete.

In hundreds of tramps taken afield this was the only time that such a remarkable illusive phenomenon had ever presented itself to my view. For instruction that fascinates and ennobles, and pleasure that never wearies, seek nature,

CHARLES EMMETT BARNES.

SUNRISE.

On the lone beach I stand and gaze across
To that dawn-distant tryst where flushed and shy,
The sea lifts up its face and lays its cheek
Against the yearning profile of the sky.

Then stealthily, as if from mortal view
To screen that ecstasy of love's delight,
The fog's brine-silvered fingers interlace,
Blurring the roseate vision from my sight.

—RAE MORTIMER SEYMOUR.



RED BIRD OF PARADISE.
(*Paradisaea raggiana*).
♂ Life size.

THE RED BIRD OF PARADISE.

(*Paradisea raggiana*.)

The Birds of Paradise are a wonderfully beautiful group of birds which inhabit New Guinea and the adjacent islands. They were given this lofty name by Dutch voyagers of very early days, because of the brilliancy of their plumage and because of very singular ideas which prevailed regarding the life they led in their native lands. Even as late as the year 1760, about which time Linnaeus named one species *apoda*, or footless, perfect specimens were unknown in Europe. It seems that the natives who captured these birds and prepared their skins for sale to the traders, invariably removed their wings and legs. Thus the belief gained credence that, as they could neither fly, walk or perch, they must necessarily pass "their lives in the air, sustained on their ample plumes, resting only at long intervals suspended from the branches of lofty trees by the wire-like feathers of the tail." These birds, too, in the simple minds of these early folk had retained the form and habits which they possessed when in the Garden of Eden and obtained their food "from the dews of heaven and the nectar of flowers." But later day investigations have placed these birds on a lower plane than that on which the pretty fancy of the early Dutch voyagers placed them. They are now known to feed upon insects and fruits and to possess many habits which are common to well-known species.

It is the adult males only which have the splendid plumage and which have made the Birds of Paradise so renowned. The females are not only very plain, but their plumage has a quite uniform brownish color. It is not strange that the males are proud of their gorgeous plumage and exhibit their charms to their female admirers in a most extravagant way. Of the habits of the Great Emerald Bird of Paradise,

it is said that the males assemble, "in numbers varying from twelve to twenty, on certain trees, and there disport themselves so as to display their magnificent plumes in the presence of the females." The natives call these dancing parties "sacaleli," and Mr. Wallace, in his "Malayan Archipelago," describes the actions of the birds. He says: "Their wings are raised vertically over the back, the head is bent down and stretched out, and the long plumes are raised up and expanded till they form two magnificent golden fans, striped with deep red at the base, and fading off into the pale brown tint of the finely-divided and softly-waving points; the whole bird is then overshadowed by them, the crouching body, yellow head, and emerald green throat, forming but the foundation and setting to the golden glory which waves above." This habit of exhibiting their charms is common to the males of the other Birds of Paradise.

The Red Birds of Paradise are found only on the islands of Waigiou, Ghemien and Batanta. They belong to the same genus as the Great Emerald Bird and are quite as beautiful. They are active and vigorous birds and not infrequently they may be seen "running along the lower boughs of trees almost like wood-peckers, with the long, black filaments of the tail hanging gracefully down on each side." In their habitat, small flocks of females and young males are quite common. The adult males, however, are less commonly seen, but that they are not far away is amply revealed by their rather loud and coarse notes.

Regarding the habits of one of these birds in confinement, a naturalist says:

"I observed the bird, before eating a grasshopper, place the insect upon the perch, keep it firmly fixed by the claws, and, divesting it of the legs, wings, *et*

cetera, devour it with the head always first. It rarely alights upon the ground, and so proud is the creature of its elegant dress that it never permits a soil to remain upon it, frequently spreading out its wings and feathers, regarding its splendid self in every direction." Dr. Bennett also gives an entertaining description of a caged bird of this species. He says:

"This elegant bird has a light, playful, and graceful manner, with an arch and impudent look, dances about when a visitor approaches the cage, and seems delighted at being made an object of admiration. It bathes twice daily, and after performing its ablutions throws its delicate feathers up nearly over its head, the quills of which have a peculiar structure, enabling the bird to effect this object. To watch this bird make its toilet is one of the most interesting sights of nature; the vanity which inspires its every movement, the rapturous delight

with which it views its enchanting self, its arch look when demanding the spectator's admiration, are all pardonable in a delicate creature so richly embellished, so neat and cleanly, so fastidious in its tastes, so scrupulously exact in its observances, and so winning in all its ways."

A traveler, who observed these birds in their native haunts, says: "As we were drawing near a small grove of teak-trees, our eyes were dazzled with a sight more beautiful than any I had yet beheld. It was that of a Bird of Paradise moving through the bright light of the morning sun. I now saw that the birds must be seen alive in their native forests, in order to fully comprehend the poetic beauty of the words 'Birds of Paradise.' They seem the inhabitants of a fairer world than ours, things that have wandered in some way from their home, and found the earth to show us something of the beauty of worlds beyond."

NATURE'S PROMISE.

Snow in the valley and snow on the mountain,
And sparkles of frost on the roof and the spire;
The cold moonbeams fall on the ice-prisoned fountain
The sun cannot free with his faint touch of fire.

But the song of the south-wind shall waken the clover,
The ring-dove will coo to his mate in the bower;
The frost-fashioned flake, when the winter is over,
A dewdrop shall shine in the heart of a flower.

—NIXON WATERMAN.

BIRDS AND NATURE

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BIRDS AND NATURE.

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THE SILVER THAW.

There came a day of showers
Upon the shrinking snow ;
The night wind sighed of flowers,
The softening sky hung low.
Midwinter for a space,
Foreshadowing April's face,
The white world caught the fancy
And would not let it go.

In reawakening courses
The brooks rejoiced the land ;
We dreamed the Spring's shy forces
Were gathering close at hand.
The dripping buds were stirred
As if the sap had heard
The long-desired persuasion
Of April's soft command.

But antic Time had cheated
With hope's elusive gleam ;
The phantom Spring, defeated,
Fled down the ways of dream.
And in the night the reign
Of Winter came again,
With frost upon the forest,
And stillness on the stream.

When morn, in rose and crocus,
Came up the bitter sky,
Celestial beams awoke us
To wondering ecstasy.
The Wizard Winter's spell
Had wrought so passing well,
The earth was bathed in glory
As if God's smile were nigh.

The silvered saplings, bending,
Flashed in a rain of gems,
The statelier trees, attending,
Blazed in their diadems.
White fire and amethyst,
All common things had kissed,
And chrysolites and sapphires
Adorned the bramble stems.

In crystalline confusion
All beauty came to birth ;
It was a kind illusion,
To comfort waiting earth.
To bid the buds forget
The Spring so distant yet,
And hearts no more remember
The iron season's dearth.

—CHARLES G. D. ROBERTS.

THE BELTED KINGFISHER.

(*Ceryle alcyon.*)

Where the river winds through its green retreat,
Smiling, rejoicing on its way,
Whose ripples and rifles every beat
The old tree-roots and boulders gray;
Where o'er the sedges' shallows and sands
The cat-tail tufts and river reeds,
At whose edge the patient angler stands,
The Kingfisher flies and feeds.
Perched on a bending, wither'd spray
That leans o'er the water's flow,
He watches intently for the prey
That swims in the stream below.

—ISAAC McCLELLAN, "THE KINGFISHER."

To the sportsman, the Belted Kingfisher, with its bluish gray back, white breast and saucy manners, is a well known bird. Many times we are startled, as we are walking meditatively by the side of some pond or stream by the sharp, metallic cry of this bird, which resembles nothing so much as an old-fashioned watchman's rattle. As we look up hastily from our reverie, we observe Alcyon flying along so near the pond as to almost touch the surface of the water, and at the other side we see it, with a majestic sweep, alight in the top branches of a tree whose branches overhang the water. Startled again, it drops from its perch, seeming to aim straight for the water, but, as before, just skimming the surface, uttering, as it flies along, its peculiar, long, rattle-like cry. While in the presence of the Kingfisher we cannot but appreciate the lines of Mr. Frank Bolles:

Hark! What sound disturbs the stillness
Of forest, of the meadow?
Harsh the notes, a wild alarum,
Waking echoes from the ledges,
Mocking laughter from the hemlocks.
Hark! It nearer comes and rattles,
Like the hail upon the grape leaves,
Like cold rain upon the cornfield.

In the latter part of March he makes his appearance and he is one of the first birds to announce that spring is at hand. To the true lover of nature, the lakes and streams would not be complete without the presence of this noisy, bright colored and cheerful fisherman.

The Kingfisher family includes a number of species, those of the Malay Archipelago being the most numerous, but only three species live in the United States. The one under discussion is

the best known and is the most widely distributed, being found from the Arctic regions to Panama and the West Indies, thus occupying the whole of North America. It winters in the southern parts of its range and appears in the northern part of the United States from the last of March to early in April. It has been seen in the New England States in winter, however. It receives its name of Belted Kingfisher from the broad band of blue, spotted with white, which marks the upper part of the breast of the male. Our illustration is that of a female, which has a band of chestnut instead of blue.

The nest of the Belted Kingfisher is made by excavating a long, winding hole in a sand-bank, which sometimes reaches a length of eight feet, four to six feet being the usual length. The hole at the opening in the bank is about three inches in diameter and this gradually increases to the end where the nest is made. This is composed of feathers, grass, leaves and other material of this kind. Frequently the nest is made in a hollow tree, presumably by a pair of birds which are too lazy to dig a nest in a bank, or, we would rather believe, because no sand-bank is near the water.

The birds pair soon after their arrival in migration, nest making and egg-laying following quickly. Five or six eggs one and a quarter inches in diameter, of a clear white color and an oval or spherical shape are laid. Incubation occupies about sixteen days. The young generally remain in the nest until they are fledged. It is a curious fact that



KINGFISHER.
(*Ceryle alcyon*).
 $\frac{2}{3}$ Life-size.

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when the time for the fall migration arrives the young leave their parents and pursue the southern journey alone. The Kingfisher is more or less of a solitary bird, and, except during the mating season, two individuals are rarely seen together.

The habits of the Kingfisher are interesting and instructive. It is a natural born fisherman and plies its trade with as much patience and skill as does its brother sportsman, Man. Its food consists almost entirely of small fishes which it captures with astonishing dexterity. Its favorite haunts are well wooded streams and small lakes and ponds where it can pursue its avocations in quietness and peace. Here it may be seen by any careful observer, and its interesting habits studied. In such a locality it may be observed sitting on the overhanging limb of a tree

and appearing like a statue, so motionless does it sit. But wait! a school of small fish come swimming along, and in the twinkling of an eye the Kingfisher darts into the water, seizes a fish in its bill and bears it to a nearby tree, where it is swallowed whole, head first. Again it is observed flying just above the surface, turning its head from side to side as it scans the water beneath, and if a fish is seen it pauses in its flight, sustaining itself by short, jerky motions of its wings, and finally plunges into the water, catches the fish in its bill and bears it to some tree where it is devoured. When perched upon the limb of a tree the Kingfisher sometimes flirts its tail as do some of the smaller birds. Besides fish, the Kingfisher is also said to eat small mammals (rarely), as well as insects, crayfish and crabs.

COLLINS THURBER.

THE KINGFISHER.

O'er the river's brink, on a summer's day,
Where lingering shadows love to play,
On an overhanging branch sits he
And waits and watches patiently,
Until with his ever restless eye
He sees a silvery fish swim by.

Then darting into the river's flow,
Like an arrow from an archer's bow,
With a daring dash and splash of spray
He seizes hold of his finny prey
And flings a wild laugh to the skies,
As he mounts above with the shining prize.

—CHRISWELL J. HUNT.

NATURE'S WISE FOLK.

"Go to the ant, thou sluggard, consider her ways and be wise," sang Solomon, centuries ago, and the refrain of it, running through my mind one morning, drove me out to "consider" some of her ways for myself.

To my astonishment I had not gone far before I had received a charming illustration of the wisdom, patience and perseverance for which these insects are noted. The hero of this occasion was one of our common black ants. The little fellow had found a huge blue-bottle fly, and was making the best of his way home with it. The fly was many times the size and weight of the ant, and must, in consequence, have taxed his strength severely; but he persevered, never once seeming to give up for a moment. After having struggled many weary yards with his burden, he suddenly came upon a large crack between the boards of the porch floor. Surely it is useless to try further. "Give it up," I said, unconsciously. "Why waste strength upon a thing that can't be managed?"

My little acquaintance paid no heed to my lack of wisdom, but quietly deposited his burden upon the porch and went to the edge of the crack, where he endeavored to ascertain the width of the opening by stretching the antennæ over it, but as they found no resting place he decided that measurements must be taken some other way. Baffled for a moment, he suddenly darted down the aperture, hoping, no doubt, to find a convenient wisp of straw or odd projection upon which he could safely cross. No such friendly aid was offered, however, and upon his own resources he was forced to depend.

Nothing daunted, he calmly surveyed the situation, then returned to his fly, and with equal calmness and deliberation moved over it and around it, carefully noting every particular. Evidently satisfied that all was well, he firmly lifted the fly and dropped it into the crack, where it fitted exactly, thus making a fine bridge for the determined little creature, which

he quickly crossed, and, turning, lifted his dead captive out, and went on his way rejoicing.

"Well done," I exclaimed, and turned my attention to the little hero himself. I have said he was one of our common black ants, but after that exhibition of patience, perseverance, indomitable will, and engineering skill in bridging a chasm, I think he is entitled to our utmost respect, and his name—*Formica fuscus*.

As this little creature is a neighbor of the *Lasius niger*, or little brown garden ant, and both live in close proximity to us, let us pay them a visit and become better acquainted with our neighbor-folk. Of course, no two races of ants exactly resemble each other, just as no two human families are precisely alike, but in most respects there is enough similarity to make the description of one nest do for that of another, and we will find the inhabitants of these underground dwellings very interesting. Without knock or ring we enter the front door to find ourselves in a hallway supported by a single pillar, with a narrow passage each side—made so that they may be quickly guarded in case of an invasion by enemies.

Opening from the narrow passages is an irregular vestibule, which contracts again into another narrow passage, followed by still another, this one opening into the main chamber. This room, being large, several pillars of earth are left, presumably to support the roof, and behind this apartment is an inner one, divided into three chambers, and to which access is given by three narrow entrances.

Throughout these rooms all is bustling activity, for the eggs of these busy communities need careful attention from the time they are laid until the perfect insects come forth, passing, as they do, through four distinct periods—those of the egg; of the larva or grub; of the pupa or chrysalis, and finally of the ant. While these changes are taking place the

young are carried from one room to the other, and often into the air. Just why this has been done has never been really determined, but it is thought that this method is pursued in order to secure for the larvae the different temperatures of heat and moisture necessary to their perfect development.

The larval stage of young ants is the period of growth, and they are then fed with great care until they reach the chrysalis stage, when they are given nothing—being allowed to remain in a state of perfect quiescence until they emerge full-fledged ants, and immediately take their turn feeding those coming on to maturity.

There are three large divisions of ants: The *Formicidae*, *Phoneridae* and *Myrmicidae*. These three families embrace all of the various species, there being a thousand different races known to naturalists.

The body of an ant consists of three parts, the head, the thorax, and the abdomen. The head, of course, bears the chief organs of sense, the antennæ, the mandibles, and the eyes; the thorax, supporting the legs, and when present, the wings; the abdomen, the stomach, intestines and other organs.

The eyes are of two kinds—simple and compound, the latter being most wonderful in construction, having hundreds of facets, varying in number according to the species—the males of all races possessing the greatest number, those in the *Formica pratensis* having about twelve hundred facets in each eye, while the females have between eight and nine hundred, and the workers six hundred.

Much has been said and written concerning the origin of ants' nests, and many interesting efforts made to determine their exact mode of starting new homes, but thus far no positive knowledge of the beginning has resulted from experiments. It is a well-established fact, however, that each nest consists of three kinds of individuals: workers, or imperfect females, whose duties it is to attend to the young; males, and perfect females. In each community there may be two or three queens. A queen is provided with a pair of beautiful wings, which may be likened to the veil of the bride, or perhaps more properly to the

sacrificial covering of the nun, for after one short flight into the world, with its soft breezes and bright sunshine, she returns to her home and immediately despoils herself of her wings. As she lays aside her gauzy apparel it is not difficult to imagine her the young matron on house-keeping thoughts intent, or the pious sister who gives never a thought to the gay world, lost to her forever, for the queen never voluntarily sees the light of day again.

It is difficult to realize that these seemingly inoffensive insects are governed, at times, by fiercest enmity toward alien races, and that they can and do engage in deadliest combat with those antagonistic to themselves. The modes of battle differ with each race of ants, and according to the purpose of the fray. Thus the *Formica sanguinea*, on a slave-taking expedition, seek to terrify rather than kill, and only offer pursuit to the flying inhabitants of the invaded nest when they try to carry off with them the pupae of their young. These the *sanguinea* force them to give up, and, taking possession of them, themselves convey them to their own nests, where they are carefully attended until hatched, when they are introduced into slavery, and therefore know no life save one of toil.

The *Polyergus rufescens*, or celebrated slave-making ants, dispatch their enemies at once, but, save in battle, they are a helpless, indolent species of a wonderful race of insects. "This race of ants," says Sir John Lubbock, "presents a striking lesson of the degrading tendency of slavery, for these ants have become entirely dependent upon their slaves. Even their bodily structure has undergone a change. The mandibles have lost their teeth and become mere nippers; deadly weapons, indeed, but useless save in warfare. They have lost the greater part of their instincts; their art, that is, the power of building; their domestic habits, for they show no care for their young, all being done by slaves; their industry—they take no part in providing the daily supplies. If the colony changes the situation of its nest, the masters are all carried to the new abode on the backs of the slaves—nay, they have even lost their habit of feeding, and if

deprived of servants, starve rather than make the effort to feed themselves."

This slothfulness is in striking contrast to the industry that characterizes the ant as one of the most industrious workers in the world, as in this respect they are not excelled by any other insect known to naturalists. Busy little beings though they are, they fully realize the theory of "all work and no play," and often stop their labors to indulge in games, wrestling matches, and what I presume we may safely call "antics" in general.

They are hospitable, too, and frequently entertain the "angel unaware"

in the little blind beetle called *Claviger*, and a small white louse which rejoices in the somewhat ponderous name of *Platyarthrus hoffmanseggi*. A third insect also inhabits the nests of ants, much to their delight. This is the aphid, and the honey yielded by this little creature constitutes the principal food of ants, old and young. Great numbers of aphides live in each nest, and are treated with greatest consideration, the ants hiding them from their enemies, and taking care of their eggs as faithfully as they do their own.

IDA MILLIS SHINNICK.

THE SEA GULL.

Cautiously lifting itself from a crag
And spreading its wings to the breeze,
In spirals and curves the Sea Gull swerves
On its journey over seas.

Skimming the crest of the highest waves,
Then sailing high in the blue,
Sure of its bearings, sure of its course,
As sure as a compass, true.

Rising in spirals that wider grow,
To soar on its way o'erhead,
In narrowing circles it falls again
In quest of a scrap of bread.

Turning its wise head from side to side,
Scanning the broad water's waste,
Alert to danger, saving its strength,
It journeys, yet not in haste.

Calmly it travels, on and yet on,
Unwearied, unworn with flight,
Poised but a moment to rest on a wave,
Then on again, day and night.

Thus on its watery course it goes,
This snowy bird of the sea,
Voyaging ever from shore to shore,
A life that is wild and free.

—ROSE GLASS.



BLUE MOUNTAIN LORY.
(*Psittacus swainsonii*).
 $\frac{1}{4}$ Life-size.

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THE BLUE MOUNTAIN LORY.

(*Psittacus swainsonii.*)

There are a number of species of the beautiful parrots commonly called the lorries or loriquets. All of them inhabit the Australian region, including Polynesia, and they are noted for their brilliant colors. The name Lory is from a Malayan word signifying parrot, and is now used, with slight variation, in many languages to indicate these parrots. One of their characteristics is a peculiarity of the tongue which is provided with a brush instead of a fringe at the top. This brush seems to be simply an "excessive development of the papillae which are always found on the lingual surface."

The loriquets or lorikeets are smaller birds than the lorries and include the species of our illustration. The Blue Mountain Lory, or Swainson's Loriquet as it is sometimes called, is an inhabitant of the eastern portion of Australia and ranges from Cape York to Victoria. It is also said to inhabit Tasmania. While the colonists usually call it the Blue Mountain Lory, they also call it the Blue Mountaineer. It is one of the handsomest of Australian parrots, and is a general favorite of all who frequent the forests of its range. This Lory may attain a total length of twelve inches, of which its tail forms nearly one-half. It is a bird of arboreal habits and seldom descends to the ground. Its food, when obtainable, consists of pollen and nectar, but it will also eat seeds, and insects when food to its liking cannot be obtained. The Blue Mountain Lorries will feed almost exclusively on honey when that food is plentiful. It is said that they will so gorge themselves with honey that when shot it is no uncommon sight to see it stream from their mouths.

The Blue Mountain Lorries are gen-

erally seen in small flocks, but during their migrations these flocks may unite into one which consists of a very large number of birds which fly at great heights. During flight, their notes consist of loud and unpleasant cries. An observer says, these birds are "migrants to and from different districts, and their migrations are regulated by the state of the blossoms of the gums and honeysuckles upon which they feed; not that they ever entirely left our forests, for I rarely at any time went out without seeing a pair or so. But the large flocks of them only come at such times as the trees are full of honey, and depart as suddenly as they come. They are always in larger or smaller flocks, do not associate with the other parrots, and are never seen feeding on the ground." While these birds are active and their antics are interesting, they do not make desirable pets, for they are not only very noisy, but also voice a frequent and "abominable" shriek. It is also very difficult to keep them alive in captivity for any length of time without great care and almost constant attention. They are said to possess a very quarrelsome disposition and shows a great antipathy towards other parrots which they will attack and often kill. This, however, seems to be only a family animosity for they do not disturb other birds.

The Lorries nest in the hollow of trees where three or four eggs are laid. The period of incubation lasts for about twenty-one days and the male is said to assist the female in this duty. While these birds are beautiful and interesting to watch, there must be a perfect bedlam of discordant noise in a forest which is frequented by a large number of them.

A FEBRUARY PICNIC IN CALIFORNIA.

It was February twenty-second—Washington's Birthday—and a jolly party of children, chaperoned by two of the mothers, had decided to celebrate the day by going on a trip to Rock Basin—one of their favorite spots situated in the foothills of the Sierra Madre mountains in Southern California. It was a beautiful, warm morning and the children were in high spirits as, basket in hand, they tramped away on this pleasure trip.

As they followed the wagon road a beautiful meadow lark settled on the top of a live oak tree that grew close by, and greeted them with his joyful song; and in the neighboring field many ground squirrels scampered about, dodging into their holes and standing up on their hind legs until they looked like little brown sticks rather than animals. Just beyond the field of squirrels the wagon road narrowed to a trail which led them down a steep hill and into a little canyon. California had been blessed with copious rains that year and in consequence the hills that surrounded them on all sides were green with shrubs, grass and flowers. There was the sage bush alive with bees intent on extracting the nectar from which they make most delicious honey; there was the burr clover bright with many dainty yellow blossoms; the alfilaria (the California cow's wild hay) was sending forth its pretty bloom, a small purplish-pink star; and there, almost touching the path, grew the wild peony. The older members of the party knew it at once from its resemblance to its cultivated eastern sister, for though the flowers were much smaller and less showy than the tame plant, the leaves were an exact counterpart of the treasured "piny" that grew in grandmother's garden.

Not far away some one spied a poison oak and warned the others. This pretty shrub was sending up many beautiful red shoots, inviting one to pick them for a bouquet; but the red challenge was lost upon this jolly crowd, for

being frequenters of the California hills they knew this oak and its poisonous effects.

From a live oak tree growing on the hill to which their path was leading them and up which they must climb to reach Rock Basin, floated the sweet notes of the mocking bird. How he did sing! It seemed as though he would surely burst his pretty throat! Was he striving in his own sweet way to tell them to take courage; that the hill was not as steep as it looked and that they might rest under his tree when they had gained the top? To the chaperons of the party that hill seemed interminable, and they longed for the shade of the tree above to shield them from the hot winter sun. An agile little brown chameleon darted across the path and hid in the crevice of a rock, safe from these intruding strangers. The climb was a hard one but the view that greeted the climbers fully repaid them for their labor. With exclamations of delight they gazed first down upon the pretty green canyon that they had left, and then at the panorama that lay spread before them on the other side. At their feet the hill dropped abruptly several hundred feet and its sides were covered with large oaks, sycamores, underbrush, ferns and flowers. Beyond was a fertile valley and still farther away Pasadena, "Crown of the Valley," stood out against the Sierra Madre mountains, which were in turn silhouetted against a deep blue sky, making a picture fit for an artist's brush. Adding not a little to this scene was the view presented of that grand stately peak, which towered above its brothers and from its crown of snow was commonly known as "Baldy."

What a change from this patch of glittering snow on the mountain-top to the valley below! There, a field of golden poppies were blazing forth their glory. Their scientific name, *Eschscholtzia californica*, seems rather a formidable one and not half so pretty or appro-

priate as the Spanish one, *Copa de Ora*, Cup of Gold.

The happy children were improving the few minutes' rest by picking the flowers that the winter rains and warm sun had coaxed forth and with which the hill was fairly carpeted. The chaperons having rested, they again followed the path which now led along a narrow trail cut from the side of the hill and was up so high that they hardly dared look down for fear of becoming dizzy and falling. The path grew very narrow and presently the file was brought to a halt and the leader called back: "We have come to the end of the trail. What shall we do?"

To be sure, what shall we do? One mischievous girl called "Jump!"

The dog of the party went bounding down the precipitous side, and standing there in despair of ever getting any farther, they could not help wishing that the fairy Godmother would come and with her wand turn them all into little dogs. One of the chaperons of the party decided to reconnoiter and picking her way through the underbrush, was lost to view for some moments, but returning, announced that she thought the descent could be made. She reported that the trail (such as it was) ended in a twenty-foot slide that would be the most difficult part; but the party decided to risk it rather than retrace their steps. For the nimble children it was not much of an undertaking, but the corpulent member of the party found it more difficult. Securing a long, stout staff she cautiously commenced the descent. By holding on to the branches from above and stepping over those below, she finally reached the top of the incline, Nature's "Chute."

"Come on, mamma, we will catch you," called one of the mischievous children.

"I do believe that you little rogues want me to land in that stream of water," she answered.

The children laughed in glee for that was just what they wanted; but mamma knew better than to try to slide. Aided by her staff and by digging her heels into the moist earth, she safely reached the bottom and jumped the tiny stream.

A turn around a projecting point of the hill brought Rock Basin into view. The group stood on the rocky ledge some twenty feet above the huge "bowl" of water and watched the little stream fall into it. The large flat stones on which they stood were evidently a river bed, and although that day the stream of water was small, one could easily imagine that after a hard rain the water rushed through this little gorge and filled it from side to side. The course over the fall and into the basin, worn out of rock, was its only outlet as at this point the hills rose abruptly to a great height on both sides. Here on a flat stone surrounded by natural seats, the tablecloth was laid and the lunch spread out. A little further up the stream a gentleman had built a fire and was roasting potatoes and eggs for two hungry boys.

As the time for returning drew near, the party, remembering the old adage, "The going is easy; the task, getting back," decided not to return by the way they had come, for if the going up the hill should prove harder than the coming down, there were certain members of the party who did not care to undertake it. And so they returned home along the little canyon, following the stream of water where it had not entirely disappeared from sight. The children climbed the hills and returned with their arms full of ferns of many varieties. There were the Maiden-hair, coffee fern, Golden-back, Rock, Sword and Shield ferns. In many of the trees huge nests made of leaves and sticks, the homes of the wood rats, excited their curiosity, while a handsome robin red-breast, gorging himself with the red berries of the pepper tree, brought forth a cry of admiration. There were sparrows—the handsome white crowned ones—brown towhees, linnets, blackbirds, dainty little humming birds whizzing by, while those scavengers, the buzzards, soared slowly over head. A little lake surrounded by trees and peopled with frogs, was also one of the attractions of the day, which had been a most enjoyable one, long to be remembered by those who shared its pleasures.

HARRIET WILLIAMS MYERS.

THE AMERICAN ROBIN.

(*Merula migratoria.*)

His is the sweetest note in all our woods.
The whistle of the meadow-lark is sweet,
The blackbird's rapid chant fills all the vale,
And touchingly sweet the unincumbered song
That the thrush warbles in the green-wood shade;
Yet is the Robin still our sweetest bird,
And beautiful as sweet. His ruddy breast
When poised on high, struck by the unrisen sun,
Glow from its altitude, and to the sight
Presents a burning vestiture of gold;
And his dark pinions, softly spread, improved
By contrast, shame the blackbird's jetty plumes.

—WILLIAM THOMPSON BACON, "THE ROBIN."

There is no doubt that this bird like its tiny cousin, the red-breast of Europe, holds first place in the hearts of the lovers of our feathered friends. The Robin is a typical American and seems always to enjoy the vicinity of its human admirers. In the spring there are no more welcome sounds than its "cheerily, cheer up, cheer up, cheerily, cheerily, cheer up," as it sings from the top of some tree in our dooryard. This interpretation of its song by Mr. Nehrling seems a most happy one, for both the song and the presence of this home-like bird seems to suggest the thought, "cheer up," for Nature's most beautiful season is near at hand. The Robins are always welcome and sometimes they cheer us with their presence even in the early winter months. If there is plenty of food, moderately cold weather will not drive them away. Not only is the sound of its song delightful, but that of its loud and clear call, "*durick, tuck, tuck, tuck,*" is most pleasing.

Many people may enjoy the society of the Robin, for it has a wide range, extending over North America, east of the Rocky Mountains, and includes Eastern Mexico and Alaska. The Robins breed from Virginia and Kansas northward to the Arctic coast, and they may winter in Southern Canada and the Northern States when the season is not too severe, and always in the southern portion of their geographical range. In the inhabitable portions of this vast

area almost every child knows the Robins, and grown people also become attached to them.

The English Robin, or the true red-breast, which has been the theme of song and story for centuries, is undoubtedly the bird from which the American species derived its name. Both have a red breast and some similar habits. As these two birds are so closely associated in our minds the following account of Thomas Pennant, a naturalist, who published a work on British zoology in the year 1776, will be of interest. In his remarks regarding the English robin, Mr. Pennant says: "This bird, though so very petulant as to be at constant war with its own tribe, yet is remarkably sociable with mankind; in it winter frequently makes one of the family; and takes refuge from the inclemency of the season even by our fire sides. Thomson (in his 'Seasons') has prettily described the annual visits of this guest:

The red-breast, sacred to the household gods,
Wisely regardful of th' embroiling sky,
In joyless fields, and thorny thickets, leaves
His shivering mates, and pays to trusted Man
His annual visit. Half afraid, he first
Against the window beats; then, brisk,
alights
On the warm hearth; then, hopping. o'er the
floor,
Eyes all the smiling family askance,
And pecks, and starts, and wonders where
he is:
'Till more familiar grown, the table-crumbs,
Attract his slender feet.



ROBIN.
(*Merula migratoria*),
Life-size.

"The affection this bird has for mankind, is also recorded in the ancient ballad, 'The Babes in the Woods'; a composition of a most beautiful and pathetic simplicity. It is the first trial of our humanity; the child that refrains from tears on hearing that read, gives but a bad presage of the tenderest of his future sensations."

Our own Robin is not without its part in legend. There is an Algonquin Indian legend regarding the origin of the Robin in which a young Indian boy, the son of a great chief, had reached the age when it became necessary for him to receive the discipline of severe trial. The poet Whittier has placed the legend in verse. The chief left his son

When the boy was well-nigh grown,
In the trial-lodge alone,
Left for tortures long and slow,
Youths like him must undergo,
Who their pride of manhood test,
Lacking water, food, and rest.

For seven days the boy fasted, and for seven nights he did not sleep, when,

Weak from Nature's overstrain,
Faltering, moaned a low complaint:
"Spare me, father, for I faint!"
But the chieftain, haughty-eyed,
Hid his pity in his pride.

The next morning, however, the chief took food to his son, but found the boy was dead. He was buried, and

On the lodge-top overhead,
Preening smooth its breast of red
And the brown coat that it wore,
Sat a bird, unknown before.
And as if with human tongue,
"Mourn me not," it said, or sung;
"I, a bird, am still your son,
Happier than if hunter fleet,
Or a brave, before your feet
Laying scalps in battle won.
Friend of man, my song shall cheer
Lodge and corn-land; * * *"

Thus the Indian legend saith
How, at first, the Robin came
With a sweeter life than death,
Bird for boy, and still the same.

Mr. John Burroughs has called the Robin, "the most native and democratic" of birds. The Robins are sturdy birds and possess a notably aggressive personality. The Robin is *par excellence*, the "bird of freedom." It will frequent the gardens with the sparrows; the groves with guackles and sister thrushes, and the swamps with the red-

wing blackbirds. Toward other birds the Robin seems to exhibit a kindly feeling, and one would hardly think that these quiet and unobtrusive birds as they hop around our yards could ever be anything but gentle in their demeanor. Yet during the time of mating many of the males are obliged to defend themselves from rivals and there are many "hard-contested battles before peaceful possession is assured." Robins are revengeful and will fight a hated rival with much spirit. They fight "beak and claw," until one is vanquished.

The presence of Robins is always inspiring. This is especially true when they remain with us during a part or all of the winter months. At the present time, early in January, 1905, there is a small flock at Lake Forest, Illinois. They seemingly disregard the severe weather of the season, and are contented while apparently feeding on the fruits of an abundant supply of barberry bushes. It may be of interest to know, so far as I have been able to ascertain, that not one robin or other song bird has been molested or shot from Evanston through Lake Forest to Waukegan, Illinois, for some years. As a result, the Robins during the past season were so tame and friendly that a pair nested in a city lamp at Lake Bluff, Illinois, and three pairs raised their young in a small summer house, all occupying their respective nests at the same time.

In years gone by, thousands of Robins have been destroyed because of their fondness for small fruits. It is also true that many are killed at the present time for the same reason, but I am happy to be able to say that public sentiment is growing stronger every year against the slaughter of Robins because they help themselves to a few of the farmer's ripe cherries. The farmers are beginning to realize that these companionable birds have rendered them a great service in the destruction of numerous harmful insects, and are fully entitled to a few cherries. It has been conclusively shown that cultivated fruits form but four per cent of the Robin's food and injurious insects form more than one-third of its diet. If the Robins are an annoyance in the

cherry trees, a row of mulberry trees may be planted along the border of the orchard. The Robins prefer the mulberry to the cherry and will go no farther as long as the former fruit lasts. In regions where the mulberry grows, it is not an uncommon sight for one of these trees to be filled with Robins when the fruit is ripe. Fully twenty-five per cent of the cultivated fruits eaten are taken in June and July. Wild fruits are eaten whenever they are ripe and over forty varieties have been noted in the contents of the stomachs of Robins. These wild fruits are, in the main, those not gathered by man.

Dr. Dawson has well said: "The Robin's song in its common form is too well known to require particular description, and too truly music to lend itself well to syllabic imitation." Few birds have a wider range of voice expression. The Robin possesses a wonderful vocabulary. Mr. Chapman calls attention to the fact that "its notes express interrogation, suspicion, alarm, caution, and it signals to its companions to take wing." The Robin is a "bird of the morning," and seeks the "early worm" upon the lawn. "His voice rings out strong and clear in the early morning chorus." His day is long for at

twilight his beautiful voice may still be heard though it is more subdued. Mr. Parkhurst says he knows of "no other bird that is able to give so many shades of meaning to a single note, running through the entire gamut of its possible feelings. From the soft and mellow quality, almost as coaxing as a dove's note, with which it encourages its young when just out of the nest, the tone with minute gradations, becomes more vehement, and then harsh and with quickened reiteration, until it expresses the greatest intensity of a bird's emotion. Love, contentment, anxiety, exultation, rage—what other bird can throw such multifarious meaning into its tone? And herein the Robin seems more nearly human than any of its kind."

It seems strange that the faithful Mother Robin is so seldom mentioned. For her, he sings while she quietly performs her duties. For her he has soft and tender notes which seem almost whispered. On her death his lament is full of sadness. He helps her in the care of the young. She is quiet and unassuming,

"Yet she is everything to Robin,
Silent partner though she be;
Source and theme and inspiration
Of each madrigal and glee."

FRANK MORLEY WOODRUFF.

AN AUNT JANE STORY.

SOME CURIOUS INSECTS.

PART II.

"Now, Auntie, do begin with the most curious insect there is," cried Birdie, as the children gathered about Aunt Jane's chair, preparatory to a second talk about insects.

"The general mechanism of insects is remarkable. A little insect, not an inch long, will often be found to contain three hundred and six hard pieces in his outer envelope, four hundred and ninety-six muscles to put them in motion, and twenty-four pairs of trachae

to provide air. His little gizzard is provided with two hundred teeth, and through his lightsome body there are hundreds of trachae, filling it with air channels—

'The dancing grasshopper whom no care frets.
In the hot sunshine snaps his castanets.'

Why, children, we could talk two hours about the grasshopper! However, if you are anxious to hear about a very curious insect, let us try the Praying Mantis."

"Here, here," cried the younger children. "She is going to tell us about a praying insect."

"The Praying Mantis has legs as long as its body. They are so constructed as to form a little instrument, something like a pocket knife, and it uses this to cut off the heads of its enemies. It also uses its legs to catch insects for food."

"Why is it called Praying Mantis?" Edith inquired.

"Because it holds up its fore legs in an attitude of devotion, but instead of being at its prayers, it is really trying to catch its prey. Indeed, it is not at all religious, but, on the contrary, a most quarrelsome creature. In China, travelers tell us, the children often put these insects in bamboo cages, in order to see them fight and cut off each other's heads. At Washington children call them 'rear-horses,' and delight to see them catch each other.

"The Mantis has been called the god of the Hottentots. Even in Christian countries superstitions gather about it. Peasants of France say that it will turn its sybil head when it is addressed by a lost traveler and gravely point out the right way with one of its devotional legs. It is as curious in its death as in its life.

"Grant Allen says that if the head of a Praying Mantis is cut off the body will stand catching flies with outstretched arms, and fumbling about for its mouth when one is caught, much surprised to find its head unaccountably missing."

"Hurrah!" shouted John. "Among all the insects the Praying Mantis 'takes the cake'."

"Hush, John, that's slang," said Alice. "I'd like to know what it 'takes the cake' for?"

"To cut it with its knife," cried laughing Madge.

"When an insect hasn't sense enough to know when its head is off, I'd like to know how it can surpass others," said Howard.

"How can it have sense when its head is off?" demanded John.

"Order, order," cried Aunt Jane. "There is another family of insects re-

markable for its close resemblance to twigs and dry leaves. The Chameleon Fly is remarkable for the length of time it can abstain from food, and its transformation is a sort of miracle, as it lays down old, wornout parts and acquires new ones.

"The Empherus, or Day Fly, is curious on account of the brevity of its life. It grows to its full size, becomes old, and dies inside of five hours; yet during this brief period its life is often in danger from fish, if near the water; or from birds, if in the air.

"Many insects are especially adapted to certain flowers. A little yellow fly is devoted to the dandelion, while another, a little Joseph, with his coat of many colors, always frequents the linden weed. The prevailing color in his coat is rose. Have you children ever thought what giants you must appear to these little insects, in whose sight a grain of sand is a mountain?"

"Dear me," said Bird, "wouldn't I enjoy reading the journal of a Cricket or a Katy-did!"

"As you will not be likely to enjoy that pleasure, I must tell you a short story about that obscure little nuisance, the Cricket. He could not write his own autobiography, so Mr. Browning put this incident about him in one of his poems: 'There was once a contest for a prize between two musicians. When one was about to win a string of his lyre snapped. A Cricket concealed near by sounded the note, so the musician, thus helped in his perplexity, gained the prize. He had a statue made of himself holding the lyre, and on the lyre the Cricket, his partner in the prize.

"Never more apart you found,

Her he throned from him she crowned."

"Bravo!" said Howard; "it was right for him to perpetuate the fame of his little helper. But how did the Cricket get its name?"

"The Cricket has no vocal organs; he makes his music by opening and shutting his wing cases, so that the frames of the taborets rub rapidly against each other, making creaking sounds. School boys in Germany keep Crickets in boxes in their rooms for the sake of their lullaby. The poets love to

write about Crickets. Cowper voices a familiar superstition about them when he says:

“Where soe'er be thine abode,
Always harbinger of good.”

“Tell us about spiders,” begged Bird and Madge, as Aunt Jane took up her

portfolio to write, thus indicating that the conversation was ended.

“No, dears—spiders are not properly insects; besides, I must now write some letters. Another time we may consider various other creatures

BELLE PAXSON DRURY.

THE BOB-TAIL HEN.

“Well, Speckle, I don't know what you are fit for; too old to lay any eggs and too tough for a wholesome stew.” at a respectful distance from a group of These words were addressed to a ragged old hen picking up grains of corn energetic fowls which Mrs. Smith was feeding.

Nature had denied Speckle the advantage of tail feathers, and perhaps years of meditation on this deficiency had produced a feeling of shyness in the old hen, for it was very plain that she held herself aloof from other fowls. She would always give place to other chickens at the water-trough, and not until the last one had drunk its fill would Speckle walk timidly up and dip her beak into the water.

A handsome young white hen had just brought out a brood of chicks, and from the manner in which she clucked, bent her head and ruffled her feathers over the little creatures, one would have thought that she valued each one beyond price.

For a few days Mistress Whitehouse guided her brood about the barn-yard and behaved to all appearances like a most devoted mother, but one morning Mrs. Smith noticed the little chicks huddled in a corner cheeping in the most forlorn manner for their absent mother.

“Why, you poor little things,” said she, “what has become of your mother? Is it possible!” and looking toward the opposite end of the yard her eyes caught sight of the truant mother scratching

near the wood-pile with a number of other fowls.

Mrs. Smith proceeded at once to drive the mother back to her babies and the joy the tiny creatures evinced when they heard the maternal clucking would have touched a heart of stone.

The same thing happened again next day, and it was very evident that Mistress Whitehouse was of the opinion that the burden laid upon her was greater than she could bear, and wished to escape from her maternal cares. All day the little chicks were in despair, standing with their necks raised and giving vent to the most doleful cries in chickdom, while their mother was scratching in the opposite end of the yard, apparently without a pang of regret for their lonely condition.

Now old Speckle must have had a sharp eye on the little chicks, and after reflecting over the situation, she began clucking and walking quickly up to the brood, spread her wings as an invitation for them to come to her. They did not respond immediately, but Speckle continued to cluck and did her best to ruffle her ragged feathers. At last the little chicks decided that a tailless mother was better than none and with sleepy chirps nestled underneath the old hen. As time went on, Speckle showed plainly that she meant to assume the duties of motherhood, and the little chicks seemed only too thankful to follow her about and receive her well meant attentions. Speckle was a great success as a foster mother and raised the entire brood.

NINA KING.



RED-WINGED BLACKBIRD.
(*Agelaius phoeniceus*).
¾ Life-size.

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THE RED-WINGED BLACKBIRD.

(*Agelaius phoeniceus.*)

Why chidest thou the tardy spring?
The hardy bunting does not chide;
The blackbird make the maples ring
With social cheer and jubilee;
The Redwing flutes his *o-ka-lee.*

—RALPH WALDO EMERSON, "MAY-DAY."

No bird can be more appropriately called "The Bird of Society" than the Red-winged Blackbird. In the spring and fall these Blackbirds not only associate with each other in large flocks, but also with the grackles, cowbirds and other blackbirds. But the Redwings are the most lively of the flock and, perhaps we can say, the most musical. In the spring the appearance of these vivacious birds is especially enjoyed, for they are "as welcome and inspiring a promise of the new year as the peeping of frogs or blooming of the first wild flower." Easily satisfied and fully capable of caring for themselves the Redwings are an "impressive and helpful example of how to get the best out of life." They have a happy disposition and seem always to be contented with their lot. During their migrations and during the winter, while feeding in large flocks in the southern portion of their range, they seem to relieve the monotony of their toil by an almost constant chatter. Those who reside north of the winter home of the Redwings cannot but feel a sense of pleasure when these "harbingers of spring" return in March or early April. This indication of the beginning of a season of flowers and fruits and "green things growing" over-shadows, for the time, all the faults which are laid at the door of these crimson epauleted birds.

Few birds are better known and few are more abundant than these Blackbirds of the marsh and open swamp in the spring and summer, and of the grain fields in autumn. Their range is extensive, covering the United States east of the Rocky Mountains, and the southern portion of the British possessions. They winter in the south-

ern portion of their range and breed from Texas and the Gulf of Mexico north to New Brunswick and Manitoba. The Redwings during the autumn and winter congregate in large flocks and sally forth in quest of their food. They may also be considered gregarious during the spring and summer for they often breed in quite large colonies. Several hundred pairs have been known to nest in a single marsh. During the breeding season the females will frequently appear to be more numerous than the males. This is not strange, for the males are polygamous, "each having," in the words of Dr. Ridgway, "under his protection from two to three or four demure looking females, hardly half his size, and dressed in homely garb, who attend quietly and assiduously to their domestic duties, while their lord and master mounts guard upon some prominent perch near by, and cheers them with his song." It is a mellow song having a resonance which is quite pleasing and quite variable. To most hearers it sounds like the syllables *kong-quer-ee* or *con-cur-éé*. The liquid quality of his voice is in perfect harmony with the quiet and cool environment in which are his mates and their nests. Approach him, and he begins to inquire with questioning notes sounding like *chut, chuck*. Frighten him and he utters an alarm-note which is shrill and full of warning. Then, too, the Redwings have notes which are far from pleasing. Approach too closely to their nests and there is indeed a hubbub. "Bustling, frowsy females appear, and scold you soundly. The lazy gallants are all fathers now, and they join direful threats to courteous expostulations,

as they flutter widely around the intruder's head."

The nests of the Redwings are nearly always placed in a swamp or marshy place. These nests are bulky, basket-like structures, of neatly but coarsely woven grasses, leaves and stems, attached to reeds, bushes or other marsh plants. Dr. Ridgway knew of a nest which was "built in a small elm tree standing in the middle of a moderately dry meadow, and placed at a height of about fifteen feet from the ground." The nests are lined with fine grasses, rootlets, fibers and vegetable and animal hairs. The large interstices which remain in the weaving of the walls are sometimes filled with grass, rotten wood fibrous peat, or at times with mud.

Not long after the young have left the nest and are able to care for themselves, they with the males and females begin to congregate, and by the last of August or the first of September they have gathered in immense flocks. It is then that the Blackbirds become a nuisance and bearing down upon the cornfields in great black swarms do much damage at times to the corn while in the milk. In the spring they may also damage the young corn which is beginning to sprout. In the rice fields of the South these Blackbirds also frequently do much damage. Because of these depredations they are sometimes destroyed in large numbers. In the fall, when the corn has hardened and the birds have retired to the swamps to feed upon wild rice, they roost in the reeds, "whither they repair in large flocks every evening from all the neighboring quarters of the country; upon these they perch and cling, so as to obtain a support above the surrounding waters of the marsh." Many years ago, and possibly to some extent at the present time, it was the custom to fire these reeds when they became dry and thus destroy many of the Blackbirds, and some which tried to escape by flight, were shot. Mr. F. E. L. Beal says that the rice growers in the South implicate the Blackbirds equally with the bobolink in the destruction of rice both in the spring and fall. Some growers, however, claim that the Redwings are

not wholly bad for they "remain in the fields during the winter and eat the 'volunteer' rice, which, if it grew in any considerable quantity would spoil the crop."

It would seem, however, that the weight of evidence favors the Redwings and that the damage done by them in the spring and fall is more than balanced by the good deeds performed during these and the other seasons of the year. Dr. B. H. Warren has taken as many as twenty-eight cutworms from the stomach of a single Redwing. He also found that these birds consume large numbers of "earth worms, grasshoppers, crickets, plant-lice and various larvae, so destructive at times in the field and garden." It is also true that during the proper season for such fruits they eat, to a greater or less extent, blackberries, raspberries, strawberries and cherries. However, the Redwings quite atone for this by feeding the young, while under parental care, on an exclusive insect diet. All students of bird life know that this means a very notable destruction of insects. Besides their insect diet they feed largely on wild seeds, many of which are from various plants. Mr. Beal found in two hundred stomachs the seeds of smartweeds; in two hundred and seventy-one, the seeds of barngrass; in one hundred and eighty-nine, the seeds of ragweeds and in one hundred and eight the seeds of panic-grass. He also found the seeds of wild rice, pigweeds, sunflowers, sorrel, chickweed and other weeds, the destruction of which is of positive value to the farmer. It is no more than justice to this abused bird that we should quote Mr. Beal's summary of his investigations. He says: "In summing up the economic status of the Redwing the principal point to attract attention is the small percentage of grain in the year's food, seemingly so much at variance with the complaints of the bird's destructive habits. Judged by the contents of its stomach alone, the Redwing is most decidedly a useful bird. The service rendered by the destruction of noxious insects and weed seeds far outweighs the damage due to its consumption of grain. The destruction that it

sometimes causes must be attributed to its too great abundance in some localities."

We may then enjoy these interesting Blackbirds—the scarlet epauleted male in his glossy black dress, and his more somber mates in plumage of brownish gray—knowing that while they take some of the earth's products which are of value to us, they destroy a much larger quantity which are injurious to our interests. It is interesting to watch the aerial evolutions of a large flock of Redwings. Often these flocks contain hundreds, and at times there may be thousands of birds, flying in ever

varying ranks and appearing like a constantly changing black cloud, driven by the wind. Often the scarlet epaulets of males will add a pleasing touch of color as the bright rays of the sun are reflected from them. At times the flocks seem to be holding a carnival and suddenly wheeling, will alight in a mass in some grove. Immediately there is a perfect babel of voices—a grand concert from Redwing throats—which may be heard at long distances. In the words of Mr. Lowell:

'Tis a woodland enchanted!
By no sadder spirit
Than Blackbirds and thrushes,
That whistle to cheer it.

TO THE BLACKBIRD.

Queen of warblers, tuneful Blackbird,
How I love thy morning song;
Perched upon the hedge or willow,
Leader of the feathered throng.

Black thy wing and ebon-feathered,
Full of peace and joy thy note;
Dance with mirth those eyes of pleasure,
Shining brightly like thy coat.

Sing to me those carols of gladness,
Let thy music fill my soul;
In the tumult of thy raptures
Every note doth tears console.

Sing again, thy song of welcome,
Praise with joy the morning dawn;
Make the flowers and the woodland,
Call the cuckoo and the fawn.

Nature loves thee, happy Blackbird,
Lovely morning's first delight;
Fill the world with warbling always
Welcome thou with morning's light!

—HARRY B. TIERNEY.

THE INTERESTING MOT MOTS.

There are seven genera of the Mot Mot and seventeen species. All of these birds have long tails, the central feathers of which are longer than the others. They are closely related to the kingfishers and the bee-eaters of the Old World and are somewhat similar to the latter in external appearance. The Mot Mot are found only in Mexico, Central America and South America. Their nests are built in the ground, usually in a bank bordering a stream. Mr. A. K. Cherrie gives the following description of the nest of one of the species *Momotus lessoni*: "The entrance tunnel extends back horizontally sometimes for a distance of six feet. At about half its length there is a sharp bend upwards for some six inches, then the course is again horizontal as far as the chamber occupied by the nest. The nest is twelve or fourteen inches in diameter, being round, and about six inches high, with a level floor and ceiling. A few rather coarse dry twigs are strewn over the floor." The nest is also said to be "one of the dirtiest, most foul-smelling places that can be imagined."

The Mot Mot are beautiful birds and it seems strange that they should instinctively suppose that their beauty would be increased by trimming their tails. This they do, however, using their bills, the edges of which are serrated, in lieu of scissors. As soon as its tail is fully grown, it begins about an inch from the extremity of the two elongated central feathers and cuts away the web on both sides of the shaft, making a gap about an inch or more in length. Both male and female wear their tails in this manner, which gives them a remarkable appearance among all other birds. The birds will perform this operation when in captivity as well as when free. Mr. Richard Lydekker

quotes the following interesting account of an observer: "In one instance the two middle tail feathers had not grown symmetrically, one being more developed than the other. The bird was evidently puzzled to find the central feather, which its instinct warned it to nibble, and it began operations on several of the other feathers, until in time the middle one grew out beyond the others, and showed which was the proper one to snip."

The Mot Mot are shy birds and shun the society of man. They frequent forests and there feed upon the insects and berries to be found in the underbrush. It is seldom that they rise to any great height among the trees. While not easily observed, its calls, which are said to resemble the word "houton," may be heard at quite long distances. When its notes are uttered, its tail is either jerked from side to side or up and down with every articulation.

Mr. Osbert Salvin tells this curious anecdote of the Mot Mot: "Some years ago the Zoological Society possessed a specimen which lived in one of the large cages of the parrot house by itself. I have a very distinct recollection of the bird, for I used every time I saw it to cheer it up a bit by whistling such of its notes as I had picked up in the forests of America. The bird always seemed to appreciate this attention, for although it never replied, it became at once animated, hopped about the cage, and swung its tail from side to side like the pendulum of a clock. For a long time its tail had perfect spatules, but toward the end of its life I noticed that the median feathers were no longer trimmed with such precision, and on looking at its beak I noticed that from some cause or other it did not close properly, gaped slightly at the tip, and had thus become unfitted for removing the vanes of the feathers."



MEXICAN MOT MOT.
(*Momotus swainsoni*).
 $\frac{2}{3}$ Life-size.

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AMONG THE TREES.

THE OAK TREE.

Mabel was standing beneath the wide-spreading branches of an oak tree. The breeze was playing with the leaves, which, swaying to and fro, cast fantastic shadows on the grass at her feet. Beautiful, fleecy clouds were floating overhead; the liquid notes of an oriole were borne upon the breeze, and she stood watching its dainty form and gorgeous plumage, as it flitted from branch to branch. She was in a half dreamy state which was bliss itself. The oak tree brushed her face with some of its leaves, at which she laughed merrily.

"I have been reading Tennyson's 'Talking Oak,' and have come, Oak Tree, to listen to your beautiful legends and family history if you will tell them to me." She seated herself comfortably on a small knoll, and looked intently at the great mass of foliage. A sudden rustling of leaves, and she fancied she heard the Oak Tree say:

"I have been wishing to talk to you. My friend the Pine Tree has told you some interesting things. By the way, I have a double interest in that last legend which he told you; for, not only was the strong box which held the pine tree shillings made of oak, but also grandfather's chair in which the mint master sat."

"I am glad to hear it," said the maiden, as she picked up an acorn which he threw at her.

"Our family, like that of the Conifer, is an ancient and numerous one. We are known as the Oak Family, and we have thirty members. We, too, are mentioned in the Bible; for it was one of my ancestors which caught the luxurious hair of that rebellious prince Absalom; for you read that he was hanged in the branches of a giant oak."

He paused as though thinking, then, in a deep, majestic voice which filled Mabel with awe, he continued:

"We are the tree of myths and poetry; the tree which Celt and Briton worshipped; which shaded the Druid's sacred fire. We have, at all times, been the emblem of strength and longevity. When the mistletoe was found growing on our branches, it was deemed sacred; the Arch-druid would separate its parent stem with a golden knife, while attendant priests standing below with white robes outspread, would catch the sacred branch ere it reached the ground. The mistletoe was distributed among the people who used it as a medicine. The druids wore oak chaplets; their sacred fires were of burning oak logs, and the Yule log burnt at their great feast was of oak. Every year, the people put out their fires and rekindled them from the sacred fire. At this feast, two white bulls were sacrificed. They also tried their prisoners beneath our wide-spreading branches. The Germans, like the Britons, thought we belonged to the god of thunder, and when good Bishop Boniface hewed down a famous tree under which they worshipped their gods, the people expected to see him struck by lightning; but after a few strokes of the axe, to their great surprise, the tree fell down in four pieces. Ah, yes! Those were the times; but now, our glory is departed.

"The ancient Greeks and Romans thought that we belonged especially to Jove—the King of the gods. Virgil sang thus of us:

"Jove's own tree
That holds the woods in awful sovereignty:
For length of ages lasts its happy reign,
And lives of mortal man contend in vain.
Full in the midst of his own strength he
stands,
Stretching his brawny arms and leafy hands,
His shade protects the plains, his head the
hills commands."

"That is beautiful. Are there any more myths connected with your family?"

"O yes; the Greeks believed the Oak to be the first tree that grew on the earth, and when Zeus was born on Mount Lycaeus, his cradle lay under the shadow of an Oak. Then, too, there was a famous grove of sacred oaks which they used to visit when they wanted to learn his will. They read his answer in the whispers of the wind. They attributed to us the mystic power to foretell or advise about coming events. Their oldest oracle was that of Jupiter at Dodona. It was believed that two black doves, simultaneously, flew from Thebes in Egypt; one alighted in an oak grove at Dodona, and in a human voice proclaimed that an oracle of Jupiter should be established by the people. The other dove carried a similar message to the temple of Jupiter Ammon in the Lybian oasis. Accordingly the oracles were set up, and the priests in the temples interpreted the responses that were conveyed to them, by the motion of the trees in the wind."

"What beautiful myths those ancients had," said Mabel as she cracked and ate an acorn. "How sweet and white your acorns are! They are not like those on that tree yonder. How strange that I never saw acorns on you before! Yet you must be old, for I can remember you when I was a child."

"The kernels of my acorns are white and sweet because I am a White Oak. That tree is a Black Oak, and its kernels are yellow and bitter; then, too, it is an older tree. I am but twenty years old, and this is my first crop of acorns," said the Oak Tree proudly, and he shook his great branches until a perfect shower of acorns fell about the maiden, who laughed merrily as they hit her.

"The Black Oak retains his leaves all winter; and, withered and brown as they are, they speak of a time when we were evergreen. Down in New Zealand and Terra-del-Fuego, the forests are green all the year, and some of our species help to make them so.

"There is an oak tree in the forest of Windsor Castle called the King's Oak. William the Conqueror, that bold Norman, loved to sit in the shade of this lofty spreading tree and muse. We

little know what memories, what regrets, stirred his heart as he sat there in solitude. He loved that tree and even in his day, over eight centuries ago, it was pronounced a "goodly tree." Centuries have come and gone. The Norman Usurper, and all those who, with him, fought the sturdy Saxon and triumphed over him, have now passed into dust. Their lives, their ambitions, their joys and sorrows are ended long ago, and still my mighty relative lives; swept by storms in winter, rocked by mighty tempests in summer and lulled by gentle breezes often; its widespreading branches, the home of many birds, its acorns harvested by squirrels; and in springtime, the greensward at its feet carpeted by flowers, delicate and sweet, whose fragrance floats up to him like incense.

"Older even than this are the oaks near Croydon, which must have seen the glitter of Roman spears as the legions of the Empire passed beneath them."

The Oak paused as though he felt the burden of their centuries upon his own broad branches. The wind was whispering among his leaves; the nimble squirrels were darting hither and thither, busily gathering their store of nuts, so that when the wind roared and whistled and the ground was covered with snow and they were warm and snug in their cozy nests, their granaries would not be empty. The tree remained silent for some time, while Mabel waited, listening intently for his voice. Then the wind stirred his branches and he roused from his reverie.

"In the grounds of Hatfield there stands a decapitated oak, which has a singular history. One morning in February, 1587, Elizabeth, Queen of England, sat on a bench waiting for news from London. Presently a messenger arrived who dropped before her on one knee, and said: "Madam, the thing is done. The head of Mary Stuart has fallen." Suddenly a forked tongue of lightning flashed through the air, and with a deafening roar and mighty crash the head of my relative fell, like that of the beautiful but unfortunate daughter of James V of Scotland.

"These are not the only ones of my ancestors who were connected with kings. You have heard of King Arthur and his Knights of the Round Table! There is in Winchester a table made of one slice of oak, which is eighteen feet in diameter; it has been there at least seven hundred years, and is said to be the very table round which King Arthur and his sixty knights gathered. King Charles II lay hidden for a whole day in the widespreading branches of an oak and, through the screen of leaves, watched the red-coats hunting for him. A follower of his, Sir John Ross, lay hidden many days in the heart of an oak tree, which had a door made of its own bark; and no person who was not in the secret could tell that the tree was hollow.

"You have, no doubt, heard of the famous Charter Oak of Hartford, which was believed to be several centuries old. When the first settlers were clearing their land, the Indians begged that it might be spared. "It has been the guide of our fathers for centuries," they said, "as to the time of planting our corn; when the leaves are the size of a mouse's ears, then is the time to put the seed in the ground." Their request was granted, and the tree, afterwards becoming the custodian of the lost charter, became famous for all time. "It fell during a windstorm over half a century ago, and so deeply was it venerated that at sunset of that day the bells tolled and a band of music played funeral dirges over its prostrate form. Think of that! Was ever a tree so honored? Think of the grandeur, the solemnity of that scene!" He seemed absorbed in that long-past event, and tossed his great branches mournfully, as if joining in the requiem. Then he seemed to say, as if to himself:

"Man reckons his days by years; we by centuries. We strike our tap-root down deep into the ground and send out widespreading horizontal roots near the surface. 'As sturdy as an oak' is often said, and why? Because we take such firm hold on life that should we be cut off by accident or razed to the ground by fire, we throw up a new shoot the next spring. Our very poise denotes strength, and this quality is pres-

ent in the humblest member of our family. We are counted the most majestic of forest trees. What the lion is among quadrupeds, the eagle among birds, that are we to the trees of the temperate zone. We are the emblem of grandeur, of strength and duration. It takes us three centuries to attain our growth, for three centuries more we are in our prime, and again, three centuries to die.

"I am sorry to say, that we are driving the family of my friend, the Pine, to the sands, and why? Because the Pine is handicapped in its race for life. As soon as it is cut down its root dies; it has not the vigor, the power to send forth new shoots from the stump; then, too, its seed depends upon the wind. Its seed is light, its vitality fleeting, and it must find favorable conditions at once or its chance is gone. With us, it is different; we can take care of ourselves; with some of our family, an acorn no sooner touches the ground ere it sends out a shoot and is ready to take a hold on the earth; again, there are others which can wait when necessary.

"We, too, go down to the sea in ships; and I have been told that there are fish there with swords three feet long, and so strong that they can ram the sword through eight inches of oak. You have heard of England's 'hearts of oak.' Before the days of ironclads, England's ships were built of oak, hence the name. It is said that quite a little forest was cut down for every great vessel built; that it required two thousand two hundred trees for a seventy-four-gun ship.

"One of the branches of our family has a beautiful cup, the scales of which are so large and free that they give it a mossy appearance; moreover, the rim is beautifully fringed, and so fairly embraces the nut as to cover three-fourths of its surface. The young branches often have corky wings, which finally disappear as they grow older. Now, you will remember that the cork of commerce is the outer bark of an oak tree native to Southern Europe; and this makes the action of the Bur Oak more interesting."

The White Oak paused, and the maiden, gazing up into the leafy branches,

was thinking of all the wonderful things which he had been telling her. When a child, playing beneath the pine tree near by, she had often wondered why, with an oak tree so near she had to go so far to find acorns to use as cups and saucers. It was all explained now, and she waited patiently for the tree to resume its story.

"Have you ever heard of oak apples? and of Dead Sea apples?"

"No," said Mabel. "How funny! Are they good to eat?"

"No; they are a growth caused by an insect, which pierces the bark and lays her eggs therein. This causes an irritation which produces a swelling. These swellings are called galls; if you cut one open, you will find numerous insects in it. The Pin Oak, and the Swamp Spanish Oak are more liable to the attacks of these insects than any other members of our family. They attack the roots also, and an instance is cited of a gall five inches long which contained eleven hundred insects. These galls are used in the manufacture of ink. See how useful we are! We grow slowly, taking years to arrive at perfection; but what would man do without us! Our timber furnishes him with ships, houses, and furniture; the hard twisted timber at the bend of our branches is called 'knee timber' and is used when great strength is required. Our bark supplies him with cork, and also tans his leather for him; our sawdust furnishes him with brown and yellow dyes; and our galls supply him with ink. The inner lining of our bark, at one time, underwent a process which converted it into a soft, thin material, which was used for ladies' dresses."

"Oh, that would be fine. I think I would like a dress like that. But what about the Dead Sea apples?"

"As their name implies, they grow near the Dead Sea. It was said of the poor, shrubby oaks on which they grow, that the roots drew their nourishment from the ashes of the cities of Sodom and Gomorrah. They are tempting and beautiful to look at; but bitter to the taste. They are galls.

"My friend, the Pine, has spoken to you about the beauty and the grandeur of a pine forest. Have you ever noticed the beauty of our foliage in the spring-time? On many of us, the leaves come out a lovely pink and white; on others red, deepening into scarlet; on others the new leaf is a beautiful bronze green, sometimes with a purplish tinge. Oh, we are beautiful in our new leaves of many tints! And when the light frost of autumn has come and touched us with his gentle hands, what a grand and imposing sight are we! How many wander beneath our spreading branches and admire our rich colorings, as they inhale the pleasant aroma of the woods, and bask in the pleasant sunlight as it sifts down through our branches upon them!

"While the maple and ash have samaras, the willow and elm cotton, to carry their seeds along; and the nut trees have coverings to protect them; even the common burr," and he tossed himself grandly, "has prongs to help scatter its seeds; we—the sturdy, the mighty oak—have no protection for our seeds. Yet we increase, and live for centuries. We—the patriarchs of the forest—laugh at history."

EVELYN SINGER.



RED-HEADED WOODPECKER.
(*Melanerpes erythrocephalus*).
Life-size.

THE RED-HEADED WOODPECKER.

(*Melanerpes erythrocephalus.*)

The Red-headed Woodpecker, as its name indicates, has a red head, including the neck and breast; its back, primaries, secondaries, except the ends, tail and a very narrow strip around the upper and forepart of the bill are steel or blue-black; its rump, under parts and ends of the secondaries are white. As Mr. Burroughs says: "His deliberate, dignified ways and his bright uniform of red, white and steel blue bespeak him as an officer of rank." The suggestion has been made that because of his extensive range, usefulness and the fact that his colors are those of our flag—red, white and blue—he instead of the eagle, ought to be the national bird, and, for one, I am in sympathy with this suggestion. There is very little difference, if any, in the color and size of the male and female. During the summer and autumn the young of this Woodpecker are quite different in appearance from that of the adult. The crimson parts are replaced by grayish-brown, and the white on the wings is spotted with black. The adults are most attractive birds, and are from eight and one-half to nine and three-fourths inches in length, and a little smaller than the robin.

The range of the Red-headed Woodpecker extends from the southern part of the United States into the eastern provinces of the Dominion of Canada to about latitude 46 degrees; west in the United States into the eastern slopes of the Rocky Mountains, from Montana to Colorado, and the eastern half of Texas. In the eastern part of the United States it is irregular. Its migration depends very much upon the obtainable supply of food, which formerly, during the winter months, consisted largely of beechnuts and acorns that had been stored away by it in the

knot-holes of the trees and the cracks of fence stakes. My brother and I, when we were boys, were required to get, in the winter, wood from our father's woodland, which was composed largely of sugar maple and beech trees. We seldom ever felled a tree that we did not examine it to see if there were any knot-holes in it which had been taken possession of by the Woodpeckers, and usually we were rewarded for our trouble. Often we would get a quart of beechnuts from one of the holes. It was surprising how tightly the beechnuts were stored away in the holes. Those were the palmy days with brother and me and these Woodpeckers. We were full of life and exuberance. The extensive forests of beech and oak furnished them their winter supply of food, and the decaying trees in the many "clearings" their summer supply of insects and larvae with which to feed their young. It is not so now. Brother and I have grown old. The forests have disappeared, and when the winter comes the Woodpeckers must migrate southward until they find a place where their food is not covered with snow. In the summer time they are compelled to obtain much of their food from the air and the ground, and because of this they are taking on new habits of life. Many of them are becoming adept flycatchers, and it is interesting to see them dart off from a place of advantage and catch a passing insect on the wing or a grasshopper or beetle that may be on the ground. At Buzzard's Roost we have many fine beech trees. One of these is the largest of its kind that I have ever seen. At the base it measures fifteen feet in circumference. These trees are to be preserved for the birds, and as an evidence of what was at one time plentiful in this

country. Not long ago I was in conversation with a woman who is an enthusiastic lover of the birds, and I was telling her of these trees. She said: "And are you going to deaden some of them so that the Woodpeckers can build their nests in them?" I had to answer, "No." As much as I love the birds, I would not deaden a tree so that they might nest in the body. I will not kill a bird, nor will I wantonly kill a tree. I love the one as I love the other. To me the two are inseparable, and alike must live.

The nest of the Red-headed Woodpecker is a fine specimen of workmanship, and usually excavated in the bole or limb of a tree, telegraph pole or fence stake, and ranges in height from six to seventy-five feet from the ground. It is when excavating these that it can be said that he sings:

"I am birdom's carpenter;
Can make the splinters fly;
On pales and posts and forest trees
My merry trade I ply.
My bill is my chisel,
My tail is my stool."

And true enough he is a carpenter, for he makes a true circle for his hole, and his bill is his chisel and his tail his stool. The bill is long, straight and wedge-shaped, with flattened and truncated tip and sides more or less rigid, and is admirably adapted to making such excavations and pecking holes in the bark and boles of the trees in search of insects and larvae which are there concealed. And it is wonderful how he uses his tail when doing these things. The tail feathers are short, stout and spinelike at the ends. He has four toes—two in front and two behind. With these he takes hold of the bole of the tree with vice-like grip, and then throws himself back on his tail, which he uses as a fulcrum for support, and then he is ready for work with his ivory-billed chisel. Both birds, male and female, take turns in making the excavations. One will work for awhile, and then, projecting his or her head out of the hole, call to the other to take his or her turn at the work, and the absent one promptly responds to the call. The construction of the nest is such as to protect the young from

exposure to their enemies, the squirrels, hawks and owls, but not from the black-snake. This snake, otherwise harmless, is a tree climber, and climbs to the nests of these birds, as well as to those which are out on the branches of the tree, and destroys the eggs and young birds, and in this respect is a most destructive creature.

In the middle states nidifications begin with the Red-headed Woodpecker during the month of May. From four to seven short, ovate, china-white eggs are laid in the nest upon the fine chips which line its bottom. Incubation lasts about two weeks, and both parents take part in it and in feeding the young after they are hatched. These are fed one at a time, and from the mouth of the nest as soon as they are able to climb up to it. When one has been thus fed, it stands aside and makes way for another. It is interesting after the young have left the nest. A good chance to see them is along a highway on the fence stakes of a "worm" fence, that seemingly being a favorite place with them.

The tongue of the Woodpeckers is their most useful instrument, and is wonderfully adapted to the particular work of caring for the boles and branches of our trees. Its hyoid bone is greatly elongated, divides posteriorly and extends around the back and over the top of the head, the anterior ends being enveloped in a sheath in which they freely move, and being attached in advance of the eyes, usually near the opening of the right nostril. Those slender bows are accompanied by slips of muscles by whose contraction they are shortened, thrusting the tongue out far beyond the bill. Another pair of muscles, folded around the upper part of the trachea and going forward to the anterior part of the tongue, draws the organ in again. The surface of the tongue is covered with a glutinous matter, secreted by the large glands, where the ducts open near the point of the lower jaw, and furnish a fresh supply every time the tongue is drawn in. Its tip is horny, with several barbed filaments pointing backward. Being so constructed the bird can protrude its tongue into the deep holes made by

boring insects, and their larvae and spear them like a fisherman spears fish, and the smaller insects adhere to the sticky side of the tongue and are caught much like flies are caught with fly paper.

The worst that can be said of these Woodpeckers is the fact that they are accused of feeding on both the eggs and young of other birds. Major Bendire in his account of this bird says that it "is unquestionably the most disreputable representative of the Woodpecker family." When I was young the farmers and horticulturists regarded the Woodpeckers as robbers and thieves and encouraged the killing of them. A favorite pastime with the boys was to set a long pole in the ground near a cherry tree for them to alight upon, and when they had done so, to strike it with the pole of an ax or some other blunt instrument, and stun them so that they would fall to the ground, and become the easy victims of the boy or man that begrudged them the cherries they were taking. This was a very cruel practice, for it not only took the lives of the old birds, but their young must necessarily starve to death. Happily the people are being educated to the great value of these birds and no longer begrudge them the few cherries they take in feeding their young, and the ruthless killing of them is a thing of the past. A careful study of the food of these birds by the United States Department of Agriculture shows that it consists of fifty per cent animal, forty-seven per cent vegetable and three per cent mineral matter. The animal matter consists of ants, wasps, beetles, grasshoppers, moths, caterpillars, spiders, and myriapods. Ants amounted to about eleven per cent; beetles nearly one-third and grasshoppers and crickets six per cent of the food thus taken by them. Professor Forbes, in his examination of their food in Michigan found that thirty-two per cent of it consisted of canker worms.

The Woodpecker is playful and noisy.

He likes to play "hide and peep" with an observer. This he does by alighting on the bole of a tree near his observer then shuffling himself around on it so as to get his body on the farther side of the tree and then peeping at his observer! If the observer moves so as to get a better view of the bird, it will shuffle farther around but keep up its peeping. They do not sing. Their call is a loud "tchur, tchur" or "ker-r-ruck" and another is "charr, charr" or "kahrr, kahrr." As a musician he is a drummer. For a drum he uses the dead, resonant bole or limb of a tree, or a fence stake in the country or a telephone or telegraph pole in the city. On the latter they "hammer out a concert of sweet sounds from the mellow wood-notes, the clear peal of the glass, and the ringing overtures of the wires." They are very fond of drumming on a sheet of tin and frequently are heard from the roofs of our dwellings.

The flight of this Woodpecker is undulating and surging "as he flies he looks as if he wore a white gown, with a black mantle over his shoulders, and a scarlet hood," and is one of the handsomest of our birds. He is easily identified. Directly after its publication, my friend, George F. Bass, made me a present of "Bird Neighbors," by Neltje Blanchan. It is illustrated with many of the pictures that are used in illustrating this book, and it has proven a valuable aid to me in identifying many of the birds. Each summer I take it with me to the farm. I have only one grandchild and he has always called me "Gorga." I showed him the pictures in "Bird Neighbors" and told him about the birds when he was so young that he could not speak plainly. The first bird he learned to identify was the Red-headed Woodpecker. It would come to the great wild cherry tree in our front yard for cherries, and when he saw it, he would say, "Gorga, Gorga, a Tacker, tacker," meaning a Woodpecker.

WILLIAM WATSON WOOLLEN.

THE KING PARROT OR PARRAKEET.

(*Aprosnuetus cyanopygius.*)

The King Parrot is not infrequently though erroneously called the King Lory. It should not be classed with the lorries for it belongs to the *Platycercinae* or broadtail group of parrots. The King Parrots and their mates, which are called Queen Parrots, are very shy and timid birds and do not associate with other feathered creatures to any greater extent than they are obliged to do. When in captivity they should never be placed in the same aviary with other birds, especially if it is desired that they should breed. Unlike many species of parrots, the King Parrots are gentle birds and possess a kindly disposition. In an aviary in which there are confined smaller birds of other species they do not molest these smaller birds, but they will not nest, as a rule, in their presence. They do not enjoy the inquisitive natures of many of the smaller birds, and while they will "brook so interference from anybody, with their domestic arrangements," unlike many birds, they will not punish an intruder in their nesting domain; but rather if disturbed, they will try to find a more retired place for nesting. "Anything for a quiet life," seems to be the motto of these peaceful birds. Our illustration is that of the male. His mate, the Queen Parrot is much duller in color. Her plumage is dingy green; there is a reddish tint on her breast which become a deeper shade of the same color on the abdomen and under tail coverts, and the tail feathers are not as deep a blue black green color as are those of the male. The young resemble the mother until in the second year, when the males begin to develop the adult plumage.

King Parrots do not live long when confined in a house, but they will thrive

with proper care, in a well constructed and sheltered aviary out of doors where they may have plenty of fresh air and light. They seem to withstand cold better than they do heat. This seems strange in view of the fact that they are natives of New South Wales and Queensland. These Parrots ought to be long-lived for they grow slowly. They must not, however, be feed delicacies or coddled too much, for they can stand neither, and will soon droop their wings and fade away, or they will fall dead in a fit. They also require a plenty of clean, fresh water for they are very fond of bathing. When in captivity, the best foods for them are soaked grains of all kinds, nuts and fruits, and a little raw potato or dried bread will be enjoyed. Dainties should never be feed to them. In their native haunts, the King Parrots eat a large number of insects. In captivity also, when they have young birds to feed, it might be best to supply the parents with insect food such as the meal worm. If, however, insect food is once given the young birds it must be continued. They are active birds, and they also enjoy "whittling" full as well as any other parrot, and in captivity they should always be supplied with a piece of wood on which to exercise their bills.

The King Parrots are not very bright birds, nor are they very intelligent. Neither are they very tame, though now and then an individual may be found among the male birds which will not only become tame and sociable, but may also be taught to repeat some simple words. To teach him, however, requires much patience, and the training must be begun while he is yet very young. The female is always very



quiet and, so far as we know, not one has ever been taught to repeat words.

Mr. W. T. Greene gives the following interesting account of a pair of King Parrots in captivity: "A pair of adult King Parrots were placed in an out-door aviary, only a portion of which was protected from the weather. The interior was fitted up with logs suitable for nesting places, and the whole of the back was covered with pieces of virgin cork. The King and Queen soon made themselves at home in their new abode, and commenced by looking out for a house among the hollow logs of various sizes that had been placed at their disposal by the owner; none of these, however, seemed to be to their taste, and after trying first one and then another, they gave up the logs as a bad job altogether, and selected for their residence a ledge under the roof in the inner portion of their abode, which was

shaded from observation by a broad piece of cork, and on this ledge the Queen deposited her eggs, how many in number the owner could not tell, for he was afraid of disturbing the birds by looking, and in due time the hen hatched and reared her young, sometimes two, sometimes three in number."

Mr. Greene also gives the following account of a most intelligent specimen of the King Parrot which was owned by a lady. This bird was probably eight or nine years of age. It was very tame and talked exceptionally well. The lady gave Mr. Greene the following statement: "Some of the sentences he pronounced very distinctly, 'Polly, put the kettle on'; 'Mother, call the doctor'; 'Mother, kiss your darling'; 'Kiss Sukey, there's a dear,' and so on; he is rather shy and silent before strangers, but very talkative and amusing when I am with him in the room alone."

SOME UNDERGROUND PETS.

If a visitor to the mines wants to get himself into trouble, let him take a rat-killing dog with him. Every mine is alive with rats, great big fellows that can easily kill any ordinary dog and never hesitate to show fight when one comes near.

But it is not the danger to his dog alone that the visitor should dread, but the wrath of the miners should a single one of the rats be killed in the fray. They are the miners' pets. Not only do they act as scavengers and thus render inestimable service to the men who must spend the greater part of their lives in these dark, underground rooms, but they are faithful, never-failing friends to warn them of that danger they most dread, the caving in of the rocky roofs.

The rats' ears, far keener than men's, hear the slightest whisper of trouble among the slipping sands and telltale pebbles, and with shrill, peculiar squeals they flee to the open air. Many miners have saved their lives by hurrying after them in times like these.

Is it any wonder that the men protect them? That they devise plans to keep the rats near their rooms? Besides, they are the only creatures that will share the loneliness, gloom and danger of the unearthy cells where the men toil year after year, and too often, in the end, give up their lives. Small wonder that many superstitions are woven about them, or that the miners would sooner surrender their insurance policies than their friends, the Rat Family!

LEE McCRAE.

SKANDINAVIAN FOLK-LORE OF BIRDS OF PASSAGE.

PART II.

The birds that stay in Denmark both summer and winter are but few, and when the hard times come, they seek the houses. It is therefore a sign of snow and cold weather, when partridges hide in the grain and hay stacks near the houses, or when the yellow hammers come in flocks to the yards. It is also a sign of winter when the kitty-wren sings loud in the dry fagots, also when the titmouse taps on the window pane or raps on the beehive to tempt the bees to come out.

In December, the winter is already severe, and it becomes difficult for the birds to procure food; but they, too, will know it is Christmas. It is therefore, customary in all Scandinavian countries to set out sheaves of grain to them, and that pays because then the next harvest will be good, and the birds will not destroy the grains. In Jutland, oats or barley are often thrown out for the birds, and where that is placed, the birds have peace because no one can set traps or snares for partridges.

In Scania, people put out food for the magpies, and that may be quite needed by them, for Christmas evening they lay the first sticks for their nests. Christmas over, the days grow longer. It is not much but it can be noticed. In the most part of Europe, they say the day lengthens a cock-stride, but in France, it is said the day lengthens "un pas de russe," a robin-step, hence even less.

January is the most dead month; there is hardly anything to notice in regard to the birds. In February, we find more. At this time it is not well if birds are fat, as this indicates a long winter. Candlemas, the second of February, has great significance. Then the skylark should sing his first song, for if he sings earlier, it is a bad omen, and as long as the lark sings before Candlemas-day so long must he be silent thereafter; but on Candlemas-day he must sing. He says himself: "How little I am capable of, even if I cannot fly

higher than the oxen carry the yoke, yet I must get up Candlemas-day and sing a hymn to the virgin Mary." If the lark, Candlemas-day, flies as high as the oxen carry the yoke, in Denmark, Sweden, Germany and France, it is believed that there will be early spring. The lark will continue to sing, and he sings with joy: "Delightful time, delightful time, summer is coming, delightful time!"

The third of February is called "Blowmas day." On that day is blown life in all beasts and birds that have lain torpid through the winter. The name "Blowmas" is, however, only a popular explanation of Blasius, the name of the day in the almanac.

The twenty-fourth of February is, on the Danish island Bornholm (in the Baltic), called "Rookmas." In the other parts of Denmark the rooks are not so common, but on Bornholm they are numerous all over. In the winter they vanish, but at Rookmas they are expected back again. In previous times, when Bornholm was under the power of the rich Hauseatic League, about this time of the year they came to claim taxes; so "Now the Lubecs are coming!" was the cry by which the first rooks were saluted.

March the first, signs of spring appear. The titmouse cries: "Give time, give time," and then people say, "the worst of the winter is over." In Sweden, they say that the titmouse will call attention to happy progress; the sun shines and the snow melts, therefore he sings: "Little girl, peep out, peep out." In other places, however, people are less imaginative. Both in Sweden and Norway it is said that he cries: "Dried beef," simply to notify people that they can now begin to eat dried meat. The same interesting message in Denmark and Germany is brought by the cuckoo.

In the last part of February or first part of March, the lapwing is expected, but yet the winter is not over:

"The lapwing comes, and the stork comes, but it is not summer, until the cuckoo is coming."

It is common to expect an after-winter, and this, in several places in Denmark and Scania, has been named "Lapwing-winter, Lapwing-snow," because it comes just after the arrival of the lapwing. In other places in Denmark and Scania, people speak of "Stork-winter or Storksnow," and say that the stork comes with a bag of snow. In Sweden, the last snow is called "Swan snow," and a winter after the arrival of the wagtail is called "Wagtail-winter" (Arlevinter). In Normay, people speak of "Gaukrud." This term is applied to cold weather in May after the arrival of the cuckoo; and in France we have the native, "Rebuse de coucou."

About the same time as the lapwing, the starling also comes and takes up his residence in the box prepared for him on the gable, or in the tree outside the window. On Gotland, an island in the Baltic, the starbox is hung out at every house, and there, the starling has taken the place of the stork as the bird of home.

All over people look for signs of spring. If the wild geese fly early they expect an early spring. The hunters are waiting for the dear woodcock, and he comes the first Sunday in Lent. But as soon as the white anemone is in bloom, the woodcock goes further north. Then the kite comes, and if he is white under the wing, snow is expected once more.

The night of our lady, the stork flies over the Red Sea; and Lady-day (the twenty-fifth of March) is in many places

called Stork-day, because it is believed the stork flies so fast that he can reach there twelve hours after he has left Egypt. It is, however, well known that he may be delayed, and in Jutland it is said that if the stork has not come by the third of April, he shall pay a barrel of ale to the town.

The stork is all over received as a dear and missed guest. Only in Greece is he looked upon with an evil eye, because he prefers to build on the Turks' houses. In most places in Europe the stork is invited to build by laying a wheel upon the roof; and where he builds is peace and happiness, and no one need to fear fire. Should, however, the house take fire, then the stork brings water in his bill to help extinguish the fire. The first time the stork is seen in the spring, he should be noticed with great care, because if one first sees the stork flying he will be heavy and lazy, for the stork flies heavily; if he first sees him walking he will be quick to his work, for the stork walks easily; and if he first hears him cackle, he will readily break things. It is best to see the stork standing. In Jutland they say, it is a good omen to see for the first time in spring:

A standing stork,
A flying lapwing,
A playing colt,
A driving plow,
A sailing ship,
And a white lamb.

Should the stork be clean and white, the summer will be dry; should he be dirty and black, the summer will be wet.

FRANTS P. LUND.

WINTER PHILOSOPHERS.

In central New York, where the winters are long, two small boys were obliged to spend much of the time in the house and their mother proposed they should study the birds from the window, to cheat some cold days of their dreariness.

"I wish we had a magic whistle," said

one of the boys, "to blow and call the birds."

But their mother, who was a woman of experience, said, "they are something like people, you can attract them through the palate. Let us hang some bones with a little meat and some pieces of suet on the shrub near the

window and see if that will not be better than a magic whistle."

This the boys did and watched for several days. At last a downy woodpecker discovered the treat. He tasted and found it good. Bradford Torrey says, "one bird draws another," and somehow the downy must have let out the secret of the tree which bore such seasonable fruit, for before many days one could scarcely look out without seeing some feathered citizen enjoying the feast.

The boys watched and studied them so long, they felt as if they understood what they would like to say when they gave those shy glances toward the window. First the woodpecker would announce his coming by a sharp "pip" and after eating a while, he would seem to say: "Look at me! I come of an ancient and honorable race. One of our family was immortalized by Plato in the story of 'Prince Red Cap,' which you have doubtless read. I myself have nested for three years in the old apple tree yonder and my parents before me lived in this same orchard. We have watched some of our neighbors coming and going with the seasons. Some say it is for the climate and some that they can find a living easier in a new place, but I don't see but our family do just as well as these flitters. I am sure (glancing at his neat pepper and salt suit) we are well dressed and if others used the judgment I do in the selection of winter quarters, I think there would be less complaint about climate. And then, so much moving is a great wrench to your affections; so you see, boys, you can count on me summer or winter."

When a sharp harsh "quank" was heard the boys knew they should see the nut-hatch.

"Ah, boys, I am an acrobat; don't step back from the window, I am not abashed. I have performed before all the crowned heads in the orchard, and, if there are crowned heads or others who wish it, I am perfectly willing to do my best for their entertainment. good for a little fellow, isn't it? Hump! My exhibitions are free, thus placing them within the reach of all. You see

I can run up or down this branch, hanging in every conceivable attitude, head up or down, makes very little difference to me. And then I have some feats of strength. I can crack a nut without a hammer, which is pretty —my appetite doesn't seem sharp just now but I believe in improving one's opportunities. I will carry some of these tempting morsels of fat to the old cherry tree and hide them in a crevice in the bark. I shall no doubt find it convenient to have a private store of my own laid by for a cold day."

"Chank, chank, chank—we," said the sparrows, "are English and came by special invitation to this beautiful country of yours, where all are free to enjoy life, liberty, and the pursuit of happiness. There are those who begrudge us our rights, but surely something can be said in our favor. We love the haunts of men, and neither summer's heat nor winter's cold keeps us from bearing him cheerful company. We have large families to provide for; finding them food and lodgings taxes us to the utmost, and we have no time to listen to unfriendly criticism."

Then down would flutter a family of chickadees, who had such a merry time, they seemed to say, "The domestic problem is solved for us; henceforth we shall dine at this restaurant and by coming at the same time it will be more sociable and we shall dine quite '*en famille*,' although in a public place."

One of their number would often sit on a nearby branch and from time to time give his little warble, which the boys interpreted as "be bold, be bold." When the meal was ended and they were flying away, this song seemed to come floating back:

"Oh I am a chickadee bold,
The winter is fun for me,
I fear neither wind nor cold,
But frolic and laugh in glee.

"The summer and flowers have fled,
I would not ask them to stay,
For snowflakes that come in their stead
Are far more merry and gay.

"Then ho! for the wintry weather,
Ho! for the drifting snow,
We'll all be bold together
And cheerily sing as we go!"

DEBORA OTIS.



SWALLOW-TAILED INDIAN ROLLER.
(*Coracias albifrons*).
‡ Life-size.

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THE SWALLOW-TAILED INDIAN ROLLER.

(*Coracias albifrons.*)

All the Rollers, and there are several species, are notable because of their elegance and splendid colors. They feed while flying and possess many characteristics in common with the class of birds called "Bee-eaters." They subsist almost, if not entirely, on insects for the catching of which they are peculiarly fitted by the very wide gape of their bills. The colors of the plumage of the Rollers consist almost entirely of various shades of green, blue and cinnamon brown, and all inhabit the warmer latitudes of the Old World, though one, in its migration, passes into the cooler parts of Europe during the summer season. In some of the species, the tail feathers are nearly even in length, while in others, including the bird of our illustration, the outer tail feather on each side is greatly lengthened giving the tail a forked appearance similar to that of a swallow. It is only the adults, however, that have the long tail feathers for while young all the feathers of the tail are of about equal length.

The name Roller is given to these birds because of its habit of occasionally "rolling or turning over in its flight, somewhat after the fashion of the tumbler pigeon." As early as the year 1555, Gesner has said that the name Roller was applied to the species which frequents Europe. However, it is a name which is evidently not in common use in Germany, for there it is generally called Rake apparently because of its harsh note. The origin of the name Swallow-tailed, applied to the bird of our illustration, is apparent. It is a name first used by the eminent naturalist, Professor A. Milne-Edwards. This bird has also been called the Sea-green Roller, and the Senegal Roller.

The total length of the Swallow-tailed Indian Roller is not far from twelve

inches, and the longer tail feathers often extend five or more inches beyond the others. Someone has suggested that this beautiful species should have been named *elegans*, instead of *albifrons* which refers to the white of the forehead. It inhabits India and the adjacent islands and it has been stated that it is found in Northern Africa, though this seems doubtful. Its habits are said to be similar to those of the common roller which has a wide distribution over Europe, Southern Asia and Africa. This roller "is always restless and uneasy, moving from tree to tree, where it always settles on the summit, or on a dead branch. When undisturbed, it is fond of sitting in the sunshine, but during rainy weather is dull and moping. It never hops about among the branches, but flies from branch to branch, now and then descending to the ground, where it hops heavily and with an awkward demeanor. Its flight is quick, very easy, and much resembles that of a pigeon; in flying straight, it flaps the wings quickly, turns and overbalances itself often, and glides or shoots through the air for some distance before dropping onto a dead branch." The Swallow-tailed Roller nests in the hollows of trees, the eggs being laid on a scant lining of grasses, feathers and hair. Both sexes assist in the duties of incubation which cover a period of about three weeks. All the Rollers sit very closely on the eggs, though at other times they are very shy, and it is said that the common roller has been lifted from the nest.

The Rollers are not exempt from the demands of fashion. Thousands upon thousands of two species which inhabit India are killed annually to meet the demand for "gaudy feathers to bedizen ladies' dresses."

HARMONY IN NATURE.

Did you ever notice in the country how perfectly everything harmonizes? In winter, when nearly every indication of life has disappeared, and we think all creatures are dead, how beautifully the leaden sky harmonizes with the season. There are many such cases of harmony in nature; I will try to tell of some where the songs of birds seem to agree with the scene so beautifully.

Near where I live is a certain bridge, crossing a hollow; in this hollow is a lake, that was once (though I am sorry to say it is no more) surrounded by moderately thick woods. I used to love to stand on this bridge about sunset, and admire the beautiful scene. On one side the great red orb was slowly sinking behind the hills, while on the other hand night was gradually creeping over the cold, still waters of the lake. These were the dying moments of the day, and how beautiful, how suggestive, the low, plaintive "pewee, pewee, pewee peer" that rises up to us with the night mists.

The night comes on, the moon rises, casting a weird pale light over the scene. The stars come out, one by one, and eclipsing them now and then are the nighthawks, uttering their discordant squawks. A slight breeze rises, shaking

the treetops, and making large shadows that chase themselves over the lake. It is truly a weird scene, but what would it be without the "whoo, whoo, whoo" of the owls? Here, too, is another case of perfect harmony.

Now I picture myself in daylight again. I am sitting in a cool, shady glen, with a gurgling spring at my feet. It is mid-summer, and I have been walking a long distance, in the hot sunshine, along a dusty country road. How delicious the cool, clear water and the shade, but how much more delicious the joyous clear notes of the wood thrush singing on yonder twig!

There can be color harmony, too. Did you ever watch a gold-finch on a thistle flower? What a beautiful sight! The royal purple and gold, with just enough to set off the bright colors to advantage! What a dazzling sight, and yet there is perfect harmony. It is not a harsh blending of colors.

There are many such cases of harmony in nature. The next time you visit the country, try to notice some of them. It is one of the ways our Creator has used to make our home beautiful, and to give us a taste of the beauties in store for us in the world beyond.

ARTHUR T. HENRICI.

THE REAL SONG.

I was dreaming a wondrous, wondrous dream,
Of a garden in Dreaming-land,
Where the lilies bud by a golden flood,
Where the roses grow mid the summer snow,
Where the dryads in rapture stand;
But sweeter still was the song I heard—
A dreamland song from a dreamland bird!

But the dreaming came to the waking time,
Yet the singer was singing still;
And it seemed to be in the apple tree,
Or the ivy hedge, by my window edge,
So I hastened there to the sill,
And swinging there 'neath the shelt'ring eaves,
A robin sat 'mid the apple leaves.

—JAC LOWELL.

BIRDS AND NATURE

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BIRDS AND NATURE.

ILLUSTRATED BY COLOR PHOTOGRAPHY.

THE PASSING OF MARCH.

The braggart March stood in the season's door
With his broad shoulders blocking up the way,
Shaking the snow-flakes from the cloak he wore,
And from the fringes of his kirtle gray.
Near by him April stood with tearful face,
With violets in her hands, and in her hair
Pale, wild anemones; the fragrant lace
Half-parted from her breast, which seemed like fair,
Dawn-tinted mountain snow, smooth-drifted there.

She on the blusterer's arm laid one white hand,
But he would none of her soft blandishment,
Yet did she plead with tears none might understand,
For even the fiercest hearts at last relent.
And he, at last, in ruffian tenderness,
With one swift, crushing kiss her lips did greet,
Ah, poor starved heart!—for that one rude caress,
She cast her violet underneath his feet.

—ROBERT BURNS WILSON.

THE BARN SWALLOW.

(*Chelidon erythrogastra.*)

Words regarding the Barn Swallow seem almost superfluous, so well known is this beautiful bird of the environment of our homes. On our farms and in country villages, it only needs the invitation of an open door or window to lead these birds to accept the sites we offer them for homes, on the rafters of barns or other buildings. These nesting places are accepted, but not without returning value received, for the Swallows destroy a large number of harmful insects. How strange the rural home would seem without the presence of these quiet, unobtrusive birds! They add spirit to the landscape as they skim along in rapid flights, just over the crops of the fields and meadows. "The very poetry of motion is theirs as they ply up and down above the clover tops, or rise at a thought to take an insect high in the air." They are graceful in every motion, trim of figure and their well groomed plumage flashes in the sunlight as they suddenly wheel in their aerial evolutions. If their full grace is to be appreciated, the Swallows themselves must be watched for language is inadequate to describe it.

The Barn Swallows and their relatives have been admired for centuries. There are about eighty species of the family and they are distributed quite throughout the world. They are mentioned by the early Greek and Roman writers. Pliny says: "Swallows are the only birds that have a sinuous flight of remarkable velocity; for which reason it is that they are not exposed to the attacks of other birds of prey: these too, in fine, are the only birds that take their food on the wing." It is evident that Pliny was not informed of other birds which take their food while on the wing, but otherwise, his statements are true of the swallows of today. All the swallows are beautiful,

but none are more beautiful nor more graceful than the forked tailed bird which is shown in our illustration.

The Barn Swallows are American birds and are probably more generally distributed than is any other purely American bird. Their range includes North America in general and they winter in Central and South America, visiting the West Indies during their migrations. Their breeding range is also extensive, extending southward from the Fur Countries into Mexico. In earlier days, before man had taken possession of the broad fields and forests of America and erected buildings, the Barn Swallows were cave dwellers, as they are still in localities remote from the habitations of man. As civilization has advanced, the Swallows have changed their habits and accepted its buildings as protection for nests and young. "We may take it as an especial mark of the confiding nature of this bird that its nest is placed inside the barn, and we shall not be far astray so far as the bird's disposition is concerned."

The nest is a bracket-like structure made of pellets of mud or sandy clay intermixed with fine hay and made adhesive by the bird's saliva. Within, upon a bed of fine hay, a soft lining of feathers is placed, upon which the four to six eggs are laid. Sometimes the nests are built upon the timbers of old bridges.

Swallows are affectionate and sociable. They nest in colonies and when the young birds can take care of themselves several families unite in large flocks which roost together at night, and soar over the same area during the day. It is not uncommon to find in these flocks more than one species of swallows. Their happy and cheerful disposition is shown by the sprightly notes which are uttered with much animation.



AMONG THE TREES.

THE WILLOW.

It was one of those warm, delightful days, when Nature seemed to beckon and to lure her lovers into field and wood; to leave behind the city with its noise and bustle, its din and strife, its greed and gain and come out into God's world; to listen to His little choristers, to look up into the blue dome of His vast cathedral frescoed with beautiful clouds, and be refreshed and strengthened.

Mabel could not longer resist the impulse to toss aside her sewing, and yielding, she took a broad-rimmed hat and crossing the lawn followed a little by-path to the river, where she stepped into a canoe and was soon afloat on the broad bosom of the stream. How pretty the banks looked with their great masses of foliage brightened by festoons of wild cucumber vines! She thoroughly enjoyed the scene as she made her way down stream, each bend in the river opening out like a panorama before her appreciative eyes as she drifted idly, or glided swiftly, plying her paddle as deftly and softly as any Indian maiden. Just ahead, where a great mass of foliage drooped over until it touched the water, she noticed a small opening between the branches. Curiosity prompted her to steer her canoe into this opening, and an exclamation of delight escaped her lips, as she found herself in a perfect little arbor where minnows darted hither and thither in the shallow water.

"What a perfect little arbor! How pretty those gray-green minnows look! What a soft mellow light there is in here; I think I'll make myself comfortable and enjoy the novelty of this summer house," thought Mabel, as she placed a cushion under her head and looked upward. A slight breeze was stirring; just rippling the water and playing with the willow leaves, making a musical murmur like the sweet warbling of some feathered songster.

"How would you like to have me talk

to you?" Mabel thought she heard the Willow Tree say

"Oh I would be delighted, especially if you have any nice legends in connection with your family."

"Legends! To be sure we have; have you never heard of any dishes called the 'willowware?'"

"Oh, how silly of me!" said Mabel, as she clapped her hands in delight. "I remember well one of the greatest charms about my grandmother's kitchen was her set of beautiful blue and white dishes of the willow pattern. How pretty they looked in the early twilight of those long, delightful winter evenings! Grandfather would fill the immense fireplace with logs and the bright flames would leap up and cast flickering lights and shadows in the gathering darkness. The great dresser stood opposite, and through its glass doors, arranged in neat rows—every plate and platter on its edge—could be seen this wonderful set of dishes given grandmother by her mother on the day that she was married. How often I have sat in the chimney corner and watched the lights dance over those dishes, as grandmother would tell of their early home in that log house on the edge of the woods, when grandfather would fell trees all day and at night they would watch the brush burning through the chinks between the logs. But do tell me the legend, Willow Tree."

"I suppose you have forgotten the pattern! If you had one of those old plates here you could understand it much better."

"Never mind; I have one at home which dear old grandmother gave me as a keepsake; it stands on a little bracket in my room. Tell me the legend, for I have never heard it, and when I go home I'll look at the plate and fix it more thoroughly in my mind."

"The legend is a very romantic one. Tradition has it that a wealthy mandarin

in China had a lovely and only daughter named Lichi, who fell in love with a man named Chang. This young man who had been her father's secretary, lived on a highly cultivated island much of which had been reclaimed from the water. Here he had built himself a cottage and hoped some day to bring to it his bride, the beautiful daughter of the mandarin. This island and also the fine grounds of the mandarin were bordered with willows. One day the father heard the two exchanging vows of love beneath an orange tree which grew on his estate, and he sternly forbade the unequal match; but the lovers contrived to elope and lay concealed for a time in the gardener's cottage, from which they made their escape in a boat to the young lover's island home. The enraged father pursued them with a whip and would have beaten them to death had not the gods rewarded their fidelity by changing them into turtle-doves. It is called the 'willow pattern' not only because it is a tale of disastrous love, but because the elopement occurred when the willow trees which bordered their homes began to shed their leaves."

"I think that is rather sad. If I had been the gods I would have turned the cross, old father into a stick and had the maiden and her lover living happy ever after, as they say in story books."

A livelier gust of wind than usual set the willow leaves rustling, and in a dignified voice which seemed quite out of place to the graceful tree, it continued:

"We, too, are an ancient family, for remains of us are found in the cretaceous rocks, and as for being numerous, our family embraces one hundred and sixty species, although we number only twenty distinct branches. David referred to us in his beautiful songs; when the Hebrews were led captive into a strange land they sat themselves down by the waters of Babylon and 'hunged their harps on willow trees.'"

"A Weeping Willow grows over my grandmother's grave."

"Then the Weeping Willow will be of more interest to you, so I will tell you the history of that relative first. It is a native of Asia and it is said that its name

was suggested by the continual lamentations of the Hebrews, although Thoreau—one of your men who went out into the woods and built himself a shanty on the margin of a little lake where he studied Nature and her wonderful secrets, delving deep into her hidden mysteries—says: 'It may droop—it is so little and supple—but it never weeps. It droops, not to represent David's tears, but rather to snatch the crown from Alexander's head.'"

"If the Weeping Willow is a native of Asia, how did it ever get over here?"

"I'm coming to that. A package was sent from Turkey to a Lady Suffolk in England. It was bound with a number of withes, one of which appeared quite fresh. Curiosity prompted Pope to take this withe and plant it in his villa at Twickenham, where it grew to be a beautiful tree and it is the ancestor of all those which have since lived in America. Pope loved this tree and after his death so many of the admirers of this poet—who though deformed and sickly, wrote such beautiful verses that they still live—came to gaze upon the tree that the owner became annoyed and caused it to be cut down. However, before this happened, a young British officer came to America and brought with him, carefully wrapped in oiled silk, a twig of the celebrated tree. This was given to a stepson of General Washington, who planted it near his home in Abingdon, Virginia. This child of Pope's willow flourished in an alien soil and it is claimed that all the Weeping Willows of our broad and beautiful land are its children."

"That is an interesting bit of history. I wonder how it is that history is easier learned in this way than by reading it in books?"

The Willow Tree did not seem to hear her, no doubt he was thinking of the different members of his family, and Mabel, who was quietly enjoying the novelty of her sylvan retreat, closed her eyes as if in sleep, when a leaf fluttered down upon her face. Its touch was so gentle that she would not have noticed it, if she had not heard a gentle rustling of leaves, which seemed to shape themselves into words.

"You have no doubt heard of the divining rods of the ancient Scythians, which Herodotus tells us were of the Willow. Another member of our family, the White Poplar, was consecrated to Hercules because he destroyed Cacus in a cavern adjoining Mt. Aventinus, which was covered with these trees; so overjoyed were they with this victory that they bound his brows with a branch of White Poplar. Persons offering sacrifices to Hercules were always crowned with branches of this tree; and all who had gloriously conquered their enemies in battle wore garlands of it. The White Poplar has a beautiful bark, being black at the base of the tree and some distance above, bright yellow veined with black streaks."

"Is there no legend about this tree?" asked Mabel.

"Yes; ancient mythology tells us that one day Phaeton attempted to drive his father's chariot, and caused such peril that he was hurled into the river Eridania by the thunderbolts of Jupiter. He was greatly lamented by his three sisters, the Heliades, who ever sat by the river's edge and wrung their hands, while their tears ceaselessly flowed. Such sorrow touched the compassion of the gods, who changed them into poplar trees and their tears into amber, for it was the belief of the ancients that amber flowed like tear drops from the poplars. There is a certain Cottonwood also called Carolina Poplar, which is a great favorite as a city shade tree; owing to the fact that its leaves possess just enough natural varnish to cause the grime, dust and soot to slide from its leaves. Its lungs therefore are free and its leaves are bright and fresh and clean when those of the maple and elm are soiled, choked and dying."

"What a pretty noise the Poplar leaves make! How I love to watch the leaves fluttering and shimmering in the light! They look so much as if they were endowed with life."

"Each leaf is endowed with life. Have you ever noticed that the leaves of a Poplar are placed with one edge to the sky, the other to the earth? In this way they are more susceptible to the wind and

move about more readily, hitting against one another and making the noise of which you speak. It is claimed that is how the Poplar got its name, because it kept saying pop-pop. In India they have a tree which the natives call a peepul tree for the same reason."

"We have a beautiful Aspen growing on our lawn and its leaves too, are continually moving."

"The Aspen, or Tremulous Poplar is another member of our family. There is a strange tradition about the quivering leaves of the Aspen."

"Oh do tell it to me," said Mabel, starting up so quickly that the canoe made an alarming move which set all the pretty minnows darting about as if in fright.

"Be careful," said the Willow in a warning tone, "the water is shallow or you might have had a wetting. Well," and the voice seemed awed and solemn, "It is said that the wood of the cross on which the gentle Saviour agonized and died, was taken from an Aspen Tree, and ever since it trembles and shivers at the remembrance. As one of your poets so aptly puts it in the 'Spirit of the Woods':

Far off in highland wilds, 'tis said,
But Truth now laughs at Fancy's lore,
That of this tree the cross was made
Which erst the Lord of Glory bore;
And of that deed its leaves confess
E'er since a troubled consciousness.

"Others again, say that it was the only tree which did not bend its head when Jesus passed, acknowledging His sovereignty. There is another verse of poetry which includes both of these traditions.

For fear the aspen, pallid and weak,
Which sighs by the moorland side,
And gave the wood for that hallowed cross
On which the Saviour died;
Which stood erect while its fellow-trees
stooped,

Till its merited punishment came,
And since the doom of that terrible day
Has quivered and bent with shame.

"The ancients place a deep meaning on the quivering of the leaves, saying that it is to remind us how time flies."

"I will think of these things and look at our beautiful tree with a greater interest," she said. "I never knew there

were such pretty legends about trees as I have learned within the last few weeks."

"You have carried with you in your rambles the 'ears of imagination' and that is why. Birds too, have legends, and flowers, some of them being very beautiful; but my subject is trees and only those of our family. The Aspen is a useful tree as well as pretty. On the mountains of Arizona they often grow to the height of one hundred feet. Their seeds are provided with hairs and thus are wafted great distances by the wind. Often they fall on ground rendered infertile by fire or on steep mountainous slopes where the heavy rains wash away the soil. Here they quickly germinate, the seedling plants grow very rapidly even in exposed situations, and soon the barren, sandy places are a mass of waving, tender green. The land is thus often reclaimed through their agency. I will give you an instance of this in connection with Napoleon, of whom you no doubt have read in your history."

"To be sure I have; he was sometimes called the 'Little Corporal.'"

"You are right. Well it is said that the greatest monument to his name was brought about through the agency of some of my relatives," and the Willow Tree waved its plummy branches proudly.

Mabel was listening intently, as the wind played lightly in the green roof overhead.

"For fully one hundred miles along the Bay of Biscay," continued the Willow, "There stretched a threatening array of sand dunes, which year by year pursued their irresistible march inland, some years to the extent of nearly two hundred feet. The restless winds which swept across the broad Atlantic, would catch this sand and carry it in great waves over the smiling plains of sunny France, burying fields, meadows, vineyards, houses, churches and even villages in their onward march—leaving behind them only gray billows, to which clung branches of bracken, a few starved bunches of scrub oak, and thickets of white and purple gorse, fighting stub-

bornly for a foothold upon the shifting sands. In some places would be seen a straggling group of pines, the protesting remains of a great forest. Napoleon caused a great number of Willows to be planted there and steadily the land was reclaimed, and today that stands out as the greatest of Napoleon's victories."

"You might also add—and one that did the most good for his people."

Mabel lay back on her cushions pondering silently over all the wonderful things she had heard. A new world had opened out to her and she wandered through it with ever-increasing admiration. The rustling of leaves, the twittering of birds, the breaking of the tiny waves against the side of her canoe, the ever-changing clouds—all had a new and a deeper meaning to her. Thoughtfully she fingered the Willow leaves so near her face, deep in reverie. The Willow Tree was silent too; presently it stirred its many leaves and a musical murmur floated to her ears as it seemed to say:

"We not only beautify the banks of the streams along which we grow, gladdening the eye, and affording shelter to many birds, but our roots interlace and prevent the washing away of the banks by the continual action of the water; our roots often are larger than our stems. Some members of our family grow so low that they trail along the ground like vines, others again rise to the height of sixty, seventy and even one hundred feet, waving their great masses of foliage and presenting a beautiful sight."

The Tree ceased and Mabel roused from her reverie, when she noticed the soft, mellow light had given place to a dim twilight with shadows lurking in some places. Mechanically she sat erect, arranged her cushion and paddle and pushed out of the opening into clear water. She looked at the beautiful mass of foliage as if loth to leave it.

"Goodnight, dear Willow," she said. "I certainly have enjoyed your graceful branches and the musical murmur of your voice. I shall come to you again and bring with me the 'ears of imagination.' In fact I think I shall always carry them."

EVELYN SINGER.



THE BROWN THRASHER.

(*Harporhynchus rufus*)

In June, on yonder wooded hill, go sit
Beneath the leaf trees, where, overhead,
The Brown-Thrush, playful, taunts the farmers' toil.
Thomas Hill, "Hymn of the Seasons."

These sly and plainly though elegantly dressed songsters are frequenters of the underbrush at the borders of thickets, bushy growths or patches of timber in open fields, of hedges and shrub-covered rail-fences, and, to some extent, of the undergrowth further within the forest: but the Brown Thrashers do not like to remain too deep in the shade of the forest, too far from the cheering influence of the sunshine. The merry song of the male would seem to indicate the joy giving influence of the warm, light diffusing rays of the sun. His song is more spirited, continuous and joyful in the dawning hours of day, and in the twilight moments when quiet seems to reign supreme. He greets the dawning day and bids the sun good bye at night from a favorite and conspicuous perch in the upper, and usually exposed, branches of a tree. He, at such times, abandons himself to song, and, while he seems conscious of his power, his utterances can only be likened to the overflowing of a happy nature. The song is sincere. Who does not remember the lines of the nursery poem of our younger days?

"There is a merry Brown Thrush sitting up
in a tree;
He is singing to me! He is singing to me!
And what does he say, little girl, little boy?
'Oh, the world's running over with joy!'"

We recall the words of the ornithologist Wilson, who says: "In the months of April and May, when our woods, hedge-rows, orchards, and cherry trees, are one profusion of blossoms, when every object around conveys the sweet sensations of joy and Heaven's abundance is, as it were, showering around us, the grateful heart beats in unison with the varying, elevated strains of this excellent bird; we listen to its notes with a kind of devotional ecstasy, as a morning

hymn to the great and most adorable Creator of all."

Is the Brown Thrasher proud of his song? "What a magnificent aria he sings!" He is certainly conscious of his ability. He seems to invite attention as he stands with head uplifted; his bill opened wide; his body vibrating as if in unison with his emotions, and his drooping tail moving in harmony with his utterances. Magnificent as is his song, his consciousness, to the minds of some hearers, seems to detract from its high character. Mr. Chapman says that there is a "lack of spontaneity about it which makes it appeal to the mind rather than to the heart." His voice is full, powerful, stirring and uttered as if from a happy soul. In his notes, there is the "gladness of the open air, the jubilant boasting of a soul untamed." While the Brown Thrasher is often called a mockingbird, his power of mimicry is limited and is not often exercised. Indeed, it is a question if he ever attempts to copy the songs of other birds. The brilliancy of his song, however, is fully comparable to that of the mockingbird, and is said to be the equal of that prince of songsters, the European song thrush.

The range of the Brown Thrashers is quite extensive, as it extends throughout North America east of the Rocky Mountains, and from Texas and Florida northward to Ontario and Manitoba. In the winter, they remain chiefly south of Illinois and Virginia. Were it not for the song of the males these birds would be easily overlooked in their green-bowered retreats, and their song season lasts for only a short time. Their voices are heard, in their greatest perfection, during the period of courtship and nesting, after which time they are heard less and less frequently and finally cease singing altogether some time in June. Even during

their migrations, they are not readily seen, for they skulk along through the tangled underbrush and the shrubbery and herbage of fence-rows. Brown Thrashers are always suspicious and quickly resent the near approach of an intruder, uttering a sharp unpleasant note or whistle.

While the Thrashers have a quiet and retiring disposition, they are fearless in the defense of their homes or young, flying at an intruder in a most revengeful manner, and uttering their unpleasant scolding notes. The mother bird is a close sitter and will almost permit herself to be caught before leaving the nest. The nests of the Brown Thrashers are usually placed in bushes, vine tangles, brush heaps, or upon the ground, though they may be built, at times, in angles of rail fences which are protected by shrubs, herbage or brush piles. The nests are quite bulky and constructed with rather loosely placed twigs, tendrils, rootlets and leaves, and they are variously lined with fine rootlets, horse hairs and feathers. The species of thorn apples, *Cratægus*, and osage-orange hedges are favorite nesting sites of the Thrashers. They seem to feel better protected in the tangled and thorny branches of these growths. They are certainly safer in these retreats from the attacks of birds of prey. The Thrashers, as well as many other birds, seek the thorny trees and shrubs for roosting at night where they are well protected from that quiet nocturnal foe, the owl.

The food of the Brown Thrashers consists of insects, fruits and seeds. They have been accused of destroying large quantities of cultivated fruits. Mr. Sil- loway says: "I have seen as many as four birds at one time feeding in one small pear tree in the heart of a village of two thousand inhabitants. Their manner of eating pears is to peck large mouthfuls from each pear within reach. Thus many pears are spoiled for use though not entirely eaten." When in an orchard, the Brown Thrasher moves in the same skulking manner that he does when traversing the fence rows and brush heaps, and not in the open and bold style of the robin. Professor S. A.

Forbes says that, "it relishes the whole list of garden fruits, and later in the season resorts, like the thrushes, to the wild fruits of the woods and thickets." However, Professor Forbes, as well as other careful investigators of the economic value of birds, places the Thrasher on a high plane of usefulness. Dr. Sylvester D. Judd examined the contents of the stomach of one hundred and twenty-one Thrashers collected from Maine to Florida and westward to Kansas. The following percentages show the proportions of the different kinds of food taken by the birds: Animal matter, sixty-three; vegetable, thirty-five; mineral, two. Beetles formed fully one-half of the animal matter and grasshoppers, crickets and caterpillars about two-fifths. He also found that "the percentage of food taken from cultivated crops by the Thrashers amounts to eleven, and of this eight per cent is fruit and the rest grain." Dr. Judd also says: "The farmer is more than compensated for this loss by the destruction of an equal bulk of May beetles, which, if allowed to live, would have done much more harm than the Thrashers, and left a multitudinous progeny for next year." Dr. Judd summarizes his investigations of the economic relations of the Brown Thrasher to agriculture in the following words: "Two-thirds of the bird's food is animal; the vegetable food is mostly fruit, but the quantity taken from cultivated crops is offset by three times that volume of insect food."

We may then admire this elegant bird and its magnificent song feeling assured that it is also useful in a more practical way near our fields and homes. But, in the words of Mr. Burroughs, "Why is the Thrasher so stealthy? It always seems to be going about on tiptoe. I never knew it to steal anything, and yet it skulks and hides like a fugitive from justice. One never sees it flying aloft in the air and traversing the world openly, like most birds, but it darts along fences and through bushes as if pursued by a guilty conscience. Only when the musical fit is upon it does it come up into full view, and invite the world to hear and behold."

THE FEATHER-TRIMMED NEST.

Such a dear little warm home as it was, tucked away in such a sheltered nook! Down on Long Island there is a pretty village, and in that village an old-fashioned house. After the house was built, a piazza was added, built out from the second story like a square room, and supported by posts sunk in the lawn. Where two of the foundation beams cross each other, one being below the other, a shelf was formed, on which, about in the middle, a mother swallow built her nest. There was a space of about four inches between the edge of the nest and the floor of the piazza, just room enough to allow the mother bird to flit in and out of the nest. We did not discover our neighbors for some time, not until the frequent flights of the parent birds made us think there must be some young ones near by.

The nest was high above our heads as we stood on the ground, and the birdies quite safe, and we soon saw some wide-open bills over the edge of the nest. The mother bird at first resented our presence and circled about us with scolding notes, but soon seeing we meant no harm, she went on feeding her babies while we looked on. But one day we saw a surprising sight. A flock of white hens roamed over the lawn, and white feathers were plentiful. This morning from the edge of the nest rose a white feather, attached by the quill end, and standing up straight. In two or three days a row of white feathers encircled the nest, making a waving white screen all around it. The effect was very curious when the big mouths poked through the white screen

to receive their food. Whether the mother wished to hide her young birds from prying eyes, or whether she loved ornament, or wished to keep her birdies warm, we never knew, but the nest was very pretty with its odd white border.

One morning we were sitting above on the piazza when we heard a great outcry. Sally, the dusky cook, had found the nest, and stood gazing at the row of four little birdies now resting outside the nest on the beam. When the mother swallow came back and, seeing Sally, made a dive for her woolly head. Sally screamed, and, throwing her apron over her head, made for the kitchen door, the bird darting at her fiercely until she disappeared. At the barn lived a gray pussy, quite a kitten still, with playful ways. Whenever she strayed too near the nest the swallow would dart at her; the kitten would dodge her head and roll over on her back, making passes at the bird with her claws, then, scrambling up, would run a few steps, till the bird would dart at her again, and the same scene would be repeated, until pussy was driven away. The bird came so close to her that it seemed to take nips from her fur.

The mother-care was rewarded, and all the birdies were gone one morning, flying about with their mother, all but one. That one was weak or fearful, and we thought he would starve, but after three days of loneliness he too disappeared, to what end we never knew, and the pretty nest with its edge of white feathers was deserted.

ELIZABETH H. COOMBS.

THE GREEN JAPANESE PHEASANTS.

(*Phasianus versicolor*.)

The native environment of the Pheasant of our illustration is in Japan, that beautiful land of flowers. There among the hills of the island of Nippon the males display their beautiful plumage, the colors of which are greatly enhanced by the bright sunlight. They are called Green Pheasants because of the brilliant shade of this color which pervades the feathers of the breast and under parts of the birds, and in certain lights modifies nearly all the rest of the plumage of the body. At times the green color deepens into a dark and rich emerald, and when observed from some angles, a bright purplish hue is evident. In captivity, these Pheasants vary somewhat in color and color patterns. This is without doubt due mainly to the interbreeding of one or more species of this genus. They have been extensively introduced into the game preserves of Europe, especially in England, where they are often allowed to roam with two other species of Phasianus. This is to be regretted, for it has in many instances resulted in the production of mongrel races of no value. It is said that individuals with the pure blood of the native bird are hard to find in captivity. While very shy, the Green Pheasants seem to thrive and multiply rapidly in captivity, and few pheasants are better known. It is a native only of Japan, and there it is practically limited to the island of Nippon.

In the published report of Commodore Perry's Expedition to Japan, Mr. Cassin gives the following account of his experiences with the Green Pheasants in their native haunts:

"One morning at dawn of day, I shouldered my gun and landed in search of specimens of birds, and, that day, had the good fortune for the first time to see the Pheasant before us.

"The Province Idza, at the southern extremity of which the port of Simoda is situated, forms a long neck of land extending from the Island of Nippon in a southerly direction, and is throughout

mountainous, being from four to five thousand feet high. The valleys are highly cultivated, presenting in the spring a most luxurious landscape. The tops of the mountains and hills are in some places composed of barren rocks, and in others covered with grass and shrubs, producing an abundance of small berries. Between these higher regions and the fields below, the slopes are covered with woods, having for the greater part such thick undergrowth that it is scarcely possible to penetrate them.

"Following the beautiful valley, at the outlet of which the town of Simoda stands, for about four miles, I came to a place where the Simoda Creek divides into two branches. Selecting the eastern branch, I soon left fields and houses behind me; and ascending through a little gully, I emerged from the woods into the barren region. It was yet early in the morning; clouds enveloped the peaks and tops of the hills, the fields and woods were silent, and the distant sound of the surf from the seashore far below rather increased than lessened the impression of deep solitude made upon me by the strange scenery around.

"The walk and ascent had fatigued me somewhat; I had laid down my gun and game-bag, and was just stooping to drink from a little spring that trickled from a rock, when, not ten yards from me, a large Pheasant rose with a loud rustling noise; and before I had recovered my gun he had disappeared over the brow of a hill. I felt somewhat ashamed for allowing myself thus to be taken so completely aback; but noticing the direction in which he had gone, I proceeded more carefully in pursuit. A small stretch of tableland, which I soon reached, was covered with short grass and some little clusters of shrubs, with scattered fragments of rocks; and as I heard a note, which I took to be the crowing of a cock Pheasant at a short distance, I availed myself of the excellent cover, and crawling cautiously on



my hands and knees, I succeeded in approaching him within about fifteen yards. Having the advantage of the wind and a foggy atmosphere, and being moreover concealed by the rocks and some shrubs, I could indulge in quietly observing him and his family. On a small sandy patch was an adult cock and three hens busily engaged in taking their breakfast, which consisted of the berries already mentioned, growing hereabouts in abundance. From time to time the lord of this little family stopped in his repast and crowed his shrill war-cry, which was answered by a rival on another hill at some distance. At other moments again, when the sun broke forth for a short time, all stretched themselves in the golden rays and, rolling in the sand, shook the morning dew from their fine plumage. It was a beautiful sight; and I looked upon it with exceeding pleasure—so much, indeed, that I could not find the heart to destroy this little scene of domestic happiness by a leaden shower from my fowling piece. Sud-

denly the birds showed signs of uneasiness; and I soon discovered the cause in a Japanese root-digger coming from the opposite direction. I therefore took up my gun, and standing on my feet raised the birds also; and as they flew towards the next hill, I had the good fortune to bring down the cock with one barrel of my gun, and one of the hens with the other."

Mr. Cassin also says that the Japanese root-digger expressed great interest in a gun which would fire twice and kill two birds, and that he told him the name of this Pheasant was *Ki-zhi*. During the day, Mr. Cassin observed several Japanese who were firing matchlocks at a great rate but had no game. He concluded that they were firing for the purpose of driving the Pheasants to places where they would be more secure from strange hunters. The game laws of Japan are very severe, and their observance has even been made a special article of the treaty with the United States.

THE ROBIN'S CHOICE.

Gathering a wisp of dry drass from the way of the lawn mower, our nine-year-old said: "Mamma, I'll make a bird's nest in the flowering currant bush by the veranda." Of little avail we thought it, as we saw it placed among the branches, but the next day the Robin found it and she thought different. For the first time the robin's nest building went on in full view from the front window. Working very early in the morning, resting at noon until evening, very speedily the nest, deep and secure, was finished.

After a day or two of rest, lo, one blue egg, then two, three, four and no more freedom for mother bird.

Hearing chattering unusual we hastened to find the cause and discovered a pair of crow blackbirds, beautiful in bronze and green and gold in the morning sunlight, investigating the robin's

nest. But quickly the watchful owner came with a chirp of alarm. Then also, a little sputtering wren hovered around as if to dispute the right of way, and after a slight shower, a bright, alert, little bird, with olive green back and white breast came too, to view the robin's nest. Sir Robin called, and down by the rose bush flew Mother Robin to lunch upon fish worms. In just two weeks from the day the first egg was laid, there was one featherless bird in the nest; then all who looked, supposed there were four, until the heads came above the nest, and only three were found. Farther examination revealed one useless egg remaining. Leaving the nest, one fluttered out, then all; perhaps too soon, for several days afterward we found one among the leaves beneath the bush. The bird had swallowed a head of grass and failed to

break it off. We released it and felt grateful for discovering it in time, though a neighbor said: "What, ye raising robins? Why, I kill every one I see."

But tragedies in bird life are many.

Down by the brook and by the side of the lane a nest was made and one blue egg was laid; but we saw a tiger cat sneaking along the creek, and Madam Robin came no more. Then from a nest in an old log building, the wings so soon to wend their way in flight, lay scattered upon the floor.

We are glad for other joyful friends still left to us. Just over the yard fence the blue jay's nest is safe in the russet trees and just across, sways the nest of the orchard oriole, swinging from above and attached below, and which we think was more than ten days in building. In an adjoining tree, on a topmost branch, the fly-catcher, mother king bird, has gone to housekeeping. So while mourning the robins' fate we still have birds to cheer us and to admire and love.

MRS. E. W. BRUBAKER.

SCANDINAVIAN FOLK-LORE OF BIRDS OF PASSAGE.

PART III.

In Sweden and Norway, where the stork is not found, and where the hooded crow is the bird of passage, this bird takes the place of the stork as a bird of omen. It is quite common to take omens from the first birds of passage a person sees or hears in the spring, but omens are taken from almost everything that is seen for the first time in the new year. Thus omens are taken from the first new moon in the new year, from the first thunder, from the first scarabee, and from the first flowers.

The crane, like the stork, comes in the last part of March:

Third Thursday in Thor (the month of March)

The crane sets his foot on earth;

Third Thursday after that

We shall go light evenings to bed;

and it is commonly said, when people begin to go to bed by daylight: "Now the crane carries light to bed." In Sweden, they have quite a remarkable story that explains this proverb. "The crane was servant girl for Miss Valborg, and every time her betrothed, Mr. Olof, came, then she carried light when they went to their rooms. This lasted from Lady-day, March twenty-fifth, to St. Olave's day, July twenty-ninth, but when they then were married, the crane

put out the light, and on that account the nights became dark. Had they continued to be betrothed all the year, then should we always have had light nights.

In the middle of April, first the gray and next the yellow wagtail come, oat seed and barley seed. When the gray wagtail comes, it is time to sow oats, and when the yellow comes, it is time to sow barley. Therefore the wagtail is in all Scandinavia and England also called the seedbird. In Jutland, people are very glad when they see the wagtail, and say that it will be spring immediately: First comes the Vet (the little wading bird called turnstone), then the Sangret (another wading bird), then comes the Somrdaal (the wagtail) and spring begins at once.

Since the skylark first commenced his song over the snow covered fields, people have been longing for spring; and each returning bird of passage has added more strength and life to the longing.

If a person sees the first wagtail flying, and it turns its breast towards him, he may expect sorrow, but otherwise it brings joy. In Norway, the gray wagtail is called "Linerle" (Flax-wagtail), and the common belief is, that the flax will grow tall, if the first wagtail flies

high, and short if it flies low. In Iceland, the wagtail brings the message that ships have again come to the island.

Finally we have the cuckoo. In the northern part of Zealand he is expected fourteen days before the first of May, and on the old Rune-staves the Cuckoo day is marked by a bird; but this day cannot of course be the same all over the North, and it is sometimes the twenty-third, the twenty-fifth, the twenty-seventh or the twenty-ninth of April, or even the first of May. The cuckoo and the Seven Stars (the Pleiades) are never seen together. When the Seven Stars disappear, the cuckoo commences to cook; this is an old story, and folk-lore tells us why:

When Christ once, with his disciples, passed a bakery, he asked for a loaf of bread, but the baker was avaricious and would give him nothing. The baker's wife, however, and her six girls gave him each a loaf, and now they stand high in heaven as clear stars; but the baker, who was changed to a cuckoo, is not even allowed to see a glimpse of his family. When the cuckoo sees the Seven Stars, so they say in Jutland, the world will perish.

All over the north and in Germany we find expression in regard to a person who is hopelessly sick. "He shall no more hear the cuckoo," is one, and in olden times many looked at the coming of the cuckoo in the same way as the day for moving or the day for payment of debts is now looked upon. In the old German legal forms we often find the expression: "Vaun der gauck gucket." In the well known fairy tale of the boy that took service with the troll on the condition that the one of them who first became angry should have nose and ears cut off, it is told that the service should last until the cuckoo commenced to cook. This is probably a remnant of an old custom. With most people, however, the coming of the cuckoo was saluted with undivided joy. In England, people used to leave their work as soon as any one in the village had heard the cuckoo, and even if it was the middle of the day, they immediately commenced merry-making. In Northumberland, this feast

was called Gawkale. In Germany, they also used to hold a feast, and the one who first had heard the cuckoo was given an egg.

When the cuckoo begins to cook, the forest should be green. It is not a good omen, if he cooks on a bare branch, for then people expect a year of scarcity and other unfortunate things.

The cook of the cuckoo, especially his first cooking, has always been considered of great significance, and among warnings against idolatry in a Swedish manuscript of the thirteenth century is found the following words: "Believe not in the cuckoo when he cooks." It is probably well known, that it is with some uneasiness that people ask the cuckoo how many years they shall live, they wishing, while asking, that he shall cook as long as possible. Just the opposite wish the young girls have, when they ask how many years will pass before their wedding. In some places they say, however, that if he cooks too long, he means nothing; that he has only happened to sit on the wrong branch. In Germany, the girls comfort themselves with the thought that the cooking then means months, and not years. In Sweden, the young girls beg pleadingly:

Little cuckoo gray
On the branch!
Tell me, poor girl, then
Truthfully and certainly,
How many years
I unmarried go!

Such a verse ought of course to move the cuckoo.

When a person hears the first cuckoo, he must attempt to embrace the tree in which he sits. If so, he can then have three of his wishes fulfilled. One wish is constant—the wishing of God's Kingdom—but the other wishes can be very different. There was once a girl in Sweden, who had made up her mind to wish: The Kingdom of God, one child, and ten cows; but she was so unfortunate that she happened to say: ten children and one cow; and that was what she received.

It is of great importance from what quarter of the globe the cuckoo is heard, for:

North-cuckoo is sorrow-cuckoo,
South-cuckoo is dead-cuckoo,
East-cuckoo is consolation-cuckoo,
West-cuckoo is best-cuckoo.

This verse is not found in Denmark, but is found under different forms all over Sweden and Norway. In Iceland, where the cuckoo never comes, the neighingbird or common snipe takes the cuckoo's place.

There is much folk-lore attached to the first cuckoo; but I will only mention that it is a common belief in Germany, France and all of Southern Europe, that in the course of the year, a person will not be in want of money, if he has been so lucky as to have some money about him the first time he hears the cuckoo; in several places, they add: the lapwing, the stork, and the swallow. It is a common belief in all of Europe, that a person will be deceived by the cuckoo, if he has not yet eaten anything when he hears him the first time. This can be followed by very bad consequences. In some places, people go so far as to believe that the person must prepare to die before the year is over; in other places, however, they say there are no bad consequences. Thus a housekeeper, that is deceived, cannot get the milk to curdle. So if a person wishes to be safe, he takes, before going out in the morning, a bite of bread and a dram. This dram, on the island of Runoe, is called "Fulsey" (fool-dram). In Denmark, we find the phrase: "To take a bite before the cuckoo," and it is said in fun of one who has eaten a hearty breakfast: The cuckoo cannot fool him.

It is not the cuckoo only, but also many other returning birds of passage that can deceive and beguile. In Sweden and Norway, this is the case with the hooded crow and the loon; in Lapland, with the wild goose and the swan; in France, with the nightingale.

Crossmas-day in spring, the third of May, the swallow may be expected and then the summer has come. One swallow does not make a summer; but with the large flocks, the summer arrives.

If the swallow comes eight days before Crossmas, the summer will be cold, Crossmas is the right day. The swallow brings happiness to the house where he builds and like the stork, he protects the house from fire. He is also received as a welcome guest. In several places in Germany, the tower watchman had as a duty to notice when the swallow came, and then the town judge immediately proclaimed the happy news; and at the head of all his house the farmer went to the barn the day the swallow was expected and opened the gate for him. The swallow will look around in his home and then sit down and twitter:

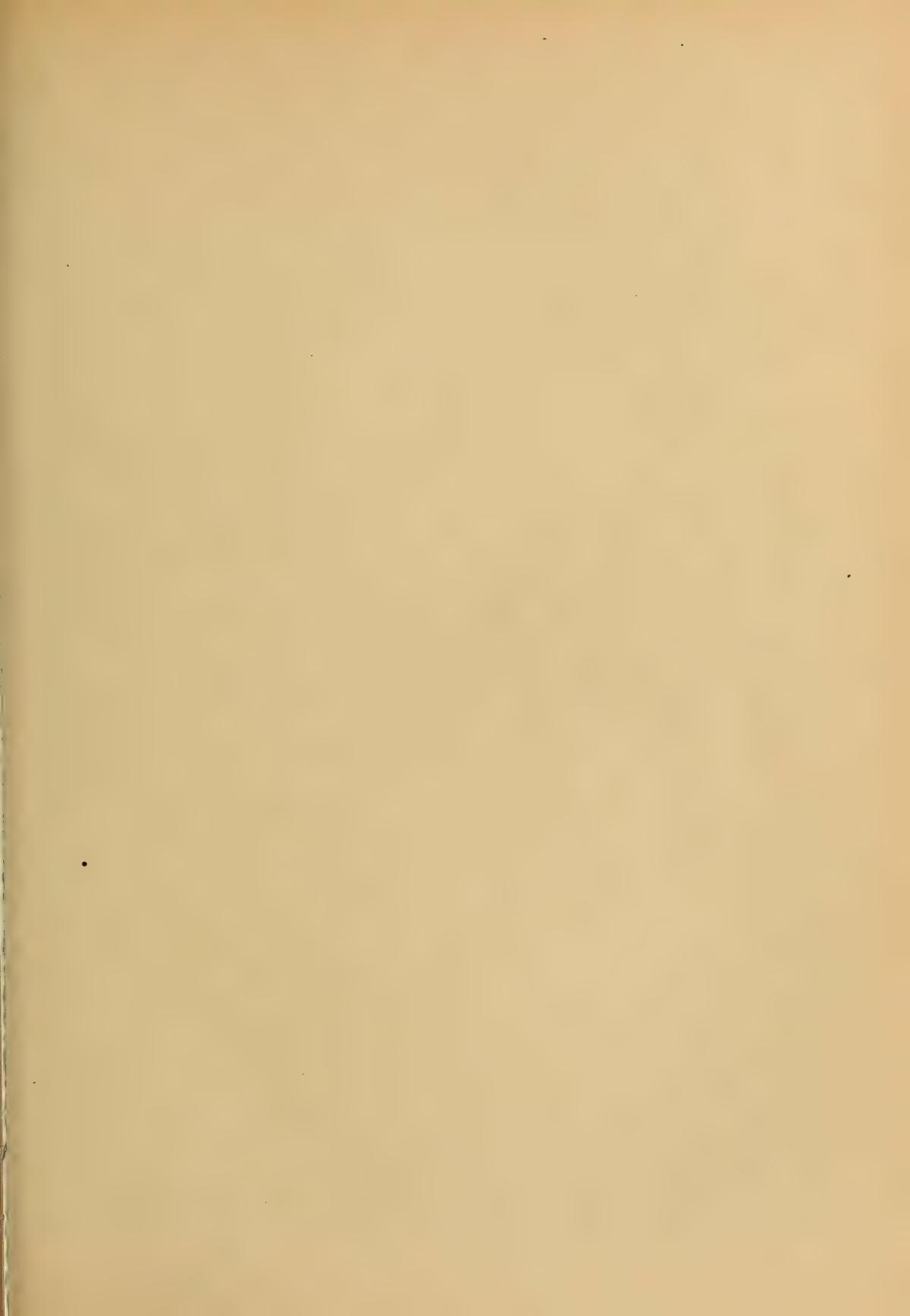
When we flew away the barns were full
But now there is nothing left.
Swit, swaet, swit, swaet, it is eaten.
It is gone!

This verse is found in many different forms through Denmark, Sweden, Germany and France.

There are many things to observe in connection with the first swallow. If a person will blow after it, everything will go easy for him in the course of the year. If a person remains standing when he sees the first swallow, and digs under his left foot and finds a small piece of coal, it is a sure cure for ague. In Germany and France they say that the person digging will find a hair of the same color as that one's future wife or husband will have.

The nightingale does not come until the thornbush is green, and then all the summer birds are gathered together, and the short but happy life in song commences. Each singing bird is sitting and singing for his enraptured mate.

FRANTS P. LUND.





BOBOLINK.

(*Dolichonyx oryzivorus*.)

THE BOBOLINK.

(*Dolichonyx oryzivorus.*)

It is generally during the month of April or May that the Bobolink terminates his winter's sojourn near the tropics and starts on his long journey to the north and northwest, passing over regions of the southland where he is one of the most despised of birds, except when properly cooked. He hurries on, traveling at night and feeding by day, often, it is true, pulling up the growing rice on the way, until he reaches the regions where he is always sure of a cordial welcome, and where there is no good reason why he should not receive a welcome, for, after passing about the fortieth degree of north latitude, he appears to be on his very best behavior, coming as a harbinger of spring, wearing his best clothes and fairly overflowing with music.

The males usually appear a few days in advance of the females and when the latter arrive courtship at once begins, the birds meeting in an open space where gay "Robert of Lincoln" dances on earth and air about the one he would have for his helpmeet, telling his love in song till she can no longer resist him. She arises and dashes away through hedge, or over meadow, knowing full well that her gay lover will follow her and from that time on, their domestic affairs appear to progress harmoniously. It is not long before in some depression in the nearby meadow may be found their nest, woven from pieces of dry grass with the earth helping to support it. In it are deposited from four to five eggs of a brownish-clay color, with spots and blotches of different shades of umber.

All during the period of nest building, incubation and rearing of the brood, Mr. and Mrs. Bobolink remain perfectly united; she protecting her eggs and her children while he is in constant attendance devoting all his spare moments to his sweet music.

As soon as incubation is completed, the male changes from his exceedingly jubilant manner to one of almost complete silence, giving only an occasional chirp. At the same time he changes his gay colored dress of early summer to one of subdued brown such as his mate has always worn and in which he finds all his children dressed. As soon as the latter are able to care for themselves, the familiar meadows are deserted. The different families gathering together and leading a quiet and retired life during the remainder of their northern stay, generally congregate about marshes, particularly where the wild rice is found.

During the early part of their northern life their diet is largely insectivorous, their young being brought up almost exclusively on it. The seeds of many weeds are devoured and although a small quantity of grain may be taken before their departure, they do far more good than harm during their life in the northland.

Distributed as they are from the Atlantic to the Great Plains of the west and as far north as Labrador, it is probably in New England that the greatest amount of sentiment surrounds these "Little Brothers of the Air." All over this vast territory when the cool fall breezes begin to blow, flocks of the Bobolinks begin to congregate and move towards their winter home.

In the reedy marshes of Pennsylvania, Maryland, Delaware and the adjacent regions, their trouble begins, for here under the name of Reed-birds they are much sought after by the sportsmen and hundreds of them go down before the leaden showers.

As the survivors continue the journey southward, they appear in the rice districts under still another name, that of Rice-bird, or Rice Bunting, and here it

is that they yield to the great temptation before them, forgetting for the time the excellent reputation they had borne while they were in the North, and thinking only of eating and getting fat. They are apparently oblivious to the fact that they have here become one of the most despised of birds and give but little heed to the desperate efforts on the part of the owners of the property which they are destroying, to keep them off, or exterminate them; neither of which is accomplished. As the yearly loss from these autumnal visitors amounts to about a couple of million of dollars, the enmity is little to be wondered at; but viewed from the birds' standpoint, they are hardly deserving the severe condemnation that is meted out to them for their depredations in the rice fields.

Their chosen winter home is more upon the western islands than upon the continent, and to reach it in their jour-

ney from their summer resort they must pass directly over the rice fields of the south.

As their migration brings them there at the time of gathering the crop, who can wonder that the little feathered travelers yield to the temptation to take an active part in the harvesting, or that they prolong their stay, growing fat, sluggish and almost indifferent to consequences before they realize that their journey is not ended? Those of them who escape death move onward leaving many a rice field so thoroughly gleaned that little remains for the owner.

We next hear of them in Jamaica, playing the gormand on the seed of the sorghum and growing so fat that they are known as Butter Birds. Here among the islands in the region of the tropics we will leave them to meditate over the experiences of the past and those yet to come.

MINOT GAYLOR JENISON.

LEAVES FROM A BOBOLINK'S DIARY.

April 25.—Florida again after our long winter so far away.

We are resting here for a few days, having traveled both night and day, over land and sea, from our home beyond the Amazon. There are nearly three hundred of us, gay, young fellows that we are, and we sing for joy all day long. Why should we not? Spring is here, and we are going north, to wait for the coming of our mates, in those beautiful soft green meadows, among the long grasses where we shall build our nests. They are three or four days behind us, those dear, demure little brown beauties, so we shall get there first to welcome them. We all have our new spring suits, and beautiful ones they are; surely we shall be irresistible, with our fine clothes, and our voices in such good

tune. I laugh when I think of something I heard some of those great human giants say last summer. I was perched high up in a great elm tree, looking out far away toward the north, to the hills so blue and beautiful in the distance, and over the near hills, covered with their grand old trees, and separated by the river whose winding course is marked by that dark unbroken line of pines. I had a fine place where no one could see me, and even if they could have caught a glimpse of me, I was safe from recognition in my fall coat of brown. I heard voices, and peeping down saw two giants, a man and a maid, approaching; the man carrying a book. It is said that "listeners never hear any good of themselves," but I can assure you that that is untrue. I could not help hearing their conversation,

although I had no intention of being an "eavesdropper." The maid proposed that they should sit there, under the shade of the great tree, where the view was so lovely, and commence their book. Before they began to read she said—so sweetly I thought—"What has become of all the Bobolinks? I used to come in the spring, out into this meadow, every day, to hear them sing, and now there is not a note to be heard or a bird to be seen, and the summer is not half over. I miss them so much; surely they must cheer up a great many sad ones, their laughter is so infectious. You know Lowell says their song 'runs down a brook of laughter through the air.'"

Every feather on my body was erect with pride, and had not my voice been out of tune, I should have thanked her for so pretty a compliment. They began to read, and then it was that I "laughed in my sleeve" at their ignorance. It was a story of something that had happened in Virginia long years ago. Now I know Virginia, because I pass through it every year, and so I listened, and heard an account of that, which to us is an "old, old story," and happens every year in staid old New England, in the Bobolink world, and so is not at all remarkable to me. It told of many men, arrayed in their finest garments, waiting impatiently for the dropping of the anchor of a great ship, which was coming slowly in with its cargo of human freight, bringing to each man his life's mate. The maids had come from over seas, each to find her husband, and having made their choice, there was the minister waiting to marry them, when they could go away together into the wilderness, and build their home.

That "remarkable" thing is exactly what we are going to do now, for the whole three hundred of us are on our way to our weddings, having each one donned his nuptial array. Several of us will go to that same big elm tree, and there we will watch impatiently for the coming of the maids. One of us will sit on the tip-top twig which is our watch tower, and when he descries the brown cloud in the distance, he warns us all that they are coming, coming at last after all our waiting, and we can fly out with a joy-

ful song to welcome them. Then comes the selection of our mates, and we go to the parson, waiting in the great elm tree, to have the knot tied, when we promise "to have and to hold," for all one summer through. A summer, let me tell you, means for us what the greater part of a life-time would for one of those human giants down there. Now we are free to go away into the wilderness of beautiful, high, green grass, in the meadow and build our home. But I have written too much in my diary today, and must now put it away that I may go and forage for my supper.

May 14.—A long time since I wrote last. We arrived here last night in the old elm tree, away up among the hills of New Hampshire, after having traveled as fast as our wings could carry us, for we were impatient to reach our journey's end. Everything looks very familiar to me, and there comes that woman, whom I used to see every day last spring. She is very harmless. She only wants to look at us and listen to our song, and does not mean to do us injury in any way. I heard the veeries, last summer, telling the warblers that they knew her quite well, and indeed had hopped all around her as she sat under a tree on the ground. It was hard to tell her from an old black stump as she never even moved an eyelid. She seems to have a great deal of curiosity about us, but I am sure is quite innocent. This morning, when we saw her over in the park, we sang a little just to let her know that we had arrived. At the first note she turned and put up that queer glass through which she always looks at us and then crossed the road and the meadow and came directly to our tree, under which she has seated herself. She has laid aside her glass, and, we know by that, she is waiting to hear us sing, so the boys are calling me to come and give her a welcome, and this writing must be laid one side for "a more convenient season." How soon that will come I do not know, for my days will be busy ones indeed, how busy only those who build their own houses, and take the entire care of their families can tell, so, for the present, my Journal, good-bye.

CORNELIA B. LONG.

THE AMERICAN CROW.

(*Corvus americanus*)

The robin and the wren are flown, and from the shrubs the jay,
And from the wood-top calls the Crow through all the gloomy day.

—WILLIAM CULLEN BRYANT, "The Death of the Flowers."

It is quite certain that no bird is better known and probably few birds are more disliked than the American Crow. A few bad traits such as pulling and eating sprouting corn, and devouring the eggs and young of poultry, has made it an unmitigated nuisance in the mind of the agriculturist. Man is the Crow's sworn enemy, but, in the words of Dr. Dawson, the Crow more than any other bird "has successfully matched his wits against those of man, and his frequent easy victories and consequent boastings are responsible in large measure for the unsavory reputation in which he is held." Without doubt the Crow is one of the smartest birds in our avian fauna. "The proper study of Crow-kind is man," and the Crow without studying by candle light has been able to master the problem. In spite of centuries of severe persecution it has held its own, and its kind has constantly increased. It has the valuable faculty of adaptability, and has been able to circumvent every barrier and fit its mode of living to every new condition imposed by man. The Crow has been placed under the ban of the law, in some localities, and a value has been placed upon its head. But what does the Crow care? It seems to enjoy being an outlaw and cunningly bests the one who tries to earn the bounty. Mr. Chapman says: "As for fear, I doubt if he knows what it means; he has far too much confidence in his undoubted ability to escape his human persecutors. He laughs at their attempts to entrap him; his insolent assurance is admirable." The Crows migrate during the light of day and they nearly always perch where they

may be readily seen and see. They know a gun and when one appears they depart. Both the psychology and the philology of the Crows are yet to be written. While the foundation of the Crows' language consists of a single expressive syllable, their voice tone may be so modified as to indicate the impulses or thoughts which are emanating from their active little brains.

The range of this notorious mischief-maker extends from the Fur Countries southward to Mexico and in many localities from the northern United States southward, we have the Crows with us always. The majority of the Crows are migratory and move southward in the fall. As they obtain their food from the ground, the principal object of their southward journey is to find localities where the surface is free from snow, at least most of the time. When migrating they travel in flocks. During the fall and winter they are gregarious and form quite large colonies called "roosts." It has been estimated that some of these "roosts" contain one hundred thousand or more Crows.

Mr. Samuel N. Rhoads has so vividly described one of these "roosts" that we quote from his paper, published in the *American Naturalist* in 1886. He says: "The course adopted in assembling to and departing from the chosen spot is uniform everywhere. About an hour before sunset stragglers begin to appear, reconnoitering, as it were, to see that the coast is clear, and returning whence they came, as if to inform the main body of the result. In the course of half an hour the flocks begin to arrive in broken lines and detachments from all quarters, and, if the evening be calm, their earthward



descent from a height of many hundred feet exhibits aerial prowess surpassing in daring elegance those of any other land bird with which I am acquainted. It is their invariable custom to descend to some spot in the neighborhood, from one-half to a quarter of a mile from the roost, preliminary to assembling there for the night's repose. This may be either upon the adjoining fields or on woodland tracts near by. Such preliminary gatherings, as Godman observes, seem to have a definite object—either for toilet or gastronomic purposes—a time, also, if we may judge by the clamor, of general conversation, some rejoicing, some repining, in their varied experience of the last twelve hours.

“The aerial evolution of this descending multitude, coupled with the surging clamor of those which have already settled as successive re-enforcements appear, and which at a distance greatly resemble the far-away roar of the sea, may justly awaken emotions of sublimity in the spectator. To descend almost perpendicularly from a height of one thousand feet above the earth to the very tree tops and then glide above them on half closed wings with a resultant momentum that is almost startling in its arrowy velocity, is a favorite manœuvre and when two such play fellows pursue each other in this headlong swoop their turnings and twistings and doubling contortions amaze the beholder. * * * Until sunset this novel scene continues without interruption, whilst field and forest in the vicinity of their great dormitory are shrouded by the thousands which have alighted; and were it not for the deafening clamor, the living pall which overspreads the scene might well suggest a land of mourning and death. When they settle on the ground on such occasions they resemble gulls on a sand bar, each standing motionless with its head toward the breeze. The whole thing seems unnecessary, as they mostly do nothing but cry out to their companions in the air and tumultuously applaud their hairbreadth escapes and feats of daring, yet sitting quietly until the setting sun warns them to make ready for the last act—going to bed.

“If we understood Crow language,

perhaps we could now recognize a distinct signal from some grand master of their assembly, summoning all to repose.

“Be this as it may, a similar impulse seizes the throng and the air fairly darkens as successive companies take wing and in silence betake themselves to the roost, flying low as if to avoid observation. Many Crows in approaching the place of preliminary gathering necessarily fly over the roost, but not a bird enters it until the general movement begins after sunset. The self-imposed discipline and obedience of such an army puts to shame the strictest military code.

“On one occasion I observed large companies arriving in the roost, at a time of full moon, for nearly an hour after sunset. Between the intervals of arrival all would become quiet in their bedchambers, but, as a more belated company drew near, their cries were responded to by the roosting Crows in a different tone. The fliers would hurriedly ejaculate ‘yur, yur, yur,’ giving each utterance a rising inflection, as if inquiring anxiously of their whereabouts, while those in the roost answered in a falling, drawling tone by slowly repeating the usual ‘caw’ and lengthening it to ‘ca-aw,’ ‘ca-aw,’ ‘ca-aw,’ as if to assure their friends they were resting comfortably.”

Fully as interesting is the process of rising from their roosts in the morning. “After an hour’s babel a few Crows essay to take leave, but as soon as this folly is observed it literally ‘brings down the house,’ and when one imagines the simultaneous shout of twenty acres of Crows, one may not wonder that ‘the house’ is fully able to bring down the Crows. The few Crows resume their perches and comparative quiet is restored.” After several like attempts with similar results about sunrise they begin to depart in detachments of from five hundred to one thousand amid the wildest enthusiasm. As the time for mating approaches the birds scatter and begin pairing quite early in the spring. They sometimes nest in colonies. Mr. Amos W. Butler speaks of a locality in Indiana where probably five hundred nests could be found on an area of two or three acres.

The Crow's nest is a substantial structure of bulky proportions. It is constructed with coarse sticks, woody vines, strips of bark, dirt or mud, sods, dried leaves, moss, grass, horse hair and other similar materials that may be at hand. Its form is that of a rather deep rounded bowl which is lined with strips of fine fibrous bark, hair, wool, twine and other material of a soft nature.

The Crows are quite omniverous, eating small mammals, reptiles, insects, fish, carrion, grains and other seeds and fruits. In fact they will eat almost anything that is eaten by other birds. While many of their habits are detrimental to the interests of man it is still somewhat doubtful whether they do more harm than good. Mr. Amos W. Butler has made a careful study of their food habits. He says: "Most persons are disposed to note losses oftener and remember them longer than benefits. It (the

Crow) is found to eat many insects. May beetles, June bugs, and noxious beetles, and quantities of them, are fed to the young. Grasshoppers are eaten all summer, but form the bulk of their food in August. Besides these, many bugs, caterpillars, cut-worms, spiders, etc., are eaten. It is thought in the more thickly settled portions of the country that the Crow does more good than harm, and if precautions are taken to protect the nests and young poultry and corn, its damage would not be of any considerable consequence." Who has not observed the Crows in the wake of the plowman? There they devour quantities of worms, insects and vermin which are exposed by the plow. The Crows may be rascals, but we should not judge them too harshly. We should, however, protect ourselves from their ravages during certain portions of the year, for at other times they are useful birds.

PUSSY WILLOWS.

Downy prophecies of spring
Welcome gift of vernal showers;
When the errant south-winds sing,
In our leafless northern bowers,
Downy as the fledgling's wing,
Burst the Pussy-willow flowers.

Listen then, in rural lanes,
Snatches of the blue-bird's song!
Swollen by the sudden rains,
Rush the little brooks along;
And the robin's cheery strain,
From the tree-top soundeth strong.

March has vanquished winter's snow,
Ushering in the leafy spring;
Summer green begins to show,
Clouds are soft upon the wing;
Now we feel and learn to know
Why the birds so sweetly sing.

—CHARLES F. FUDGE.

WILD BEES.

The idea is very common that there are only two or three kinds of bees, the bumble bee, the honey bee and possibly one kind of smaller wild bee. So far is this from being true, that 1,878 different species have been described from North America.

When we come to study the habits and structure of all these bees, it is possible to understand why they are so numerous in kinds. The pollen of flowers has to be carried principally by insects; that of one flower to other flowers of the same sort, in order to bring about fertilization and production of seed. Of all the insect carriers the bees are the most important. They visit the flowers for nectar and pollen, to store up in nests for their young, and when so doing, they carry the dust-like pollen on their fuzzy little bodies, leaving a little of that previously gathered each time they alight on a blossom.

Now suppose that all bees visited every sort of flower, it would happen that the pollen of one species of plant was left on the flower of a quite different species, where it would be quite useless.

It is desirable, therefore, that each kind of bee should visit one particular sort of plant, or at any rate should prefer certain kinds. There are many bees that never visit more than one sort of plant so that it is not surprising to find that there are many sorts of bees. Last summer we found a small black and red bee that visited only the paint-brushes (*Castilleia integra*) flying for some distance from one solitary plant to another, though the ground over which they flew was literally carpeted with flowers of other sorts, many of them having much richer storehouses than the paint brushes.

In numerous instances, we find the mouth parts of the bees exactly suited

to the kinds of flowers they visit. Some have very long tongues and can suck nectar from long tubular flowers, such as the yellow flowered currant; while others with short tongues can get the sweets from shallow flowers, such as the daisies and roses. It is the case of the fox and the stork again.

Curiously enough some bees are not honest with the flowers, for we may very well regard the pollen and nectar as offered by the flower, for the service that the bees render the plant, and when, as sometimes happens, a bee cuts a hole in the end of a tubular flower and takes the nectar, it is clearly a thief!

The wild bees sometimes show very curious adaptations in regard to the flowers they visit. One great fuzzy bee (*Caulpolicana yarrowii*) visits the flowers of the Datura, and as this flower closes as soon as the sun becomes warm, the bee must be at work very early in the morning. Another bee visits the Gaura, a flower that opens at twilight, and it can be heard with its busy bit of a hum, long after it can be seen.

Although the described bees of North America are so numerous, it is certain that we do not know half of those existing. Indeed, it is not impossible that the North American continent, with the West Indies, possess as many as 5,000 species. Thus the opportunity for the student of these insects is very great. He is almost certain to find in almost any part of the country species wholly new to science during his first day's collecting. The discovery of new forms is, however, only the beginning of the work. After this comes the most interesting part, the study of the nesting habits, and the relation between the bees and flowers. The field is a wide one, and seems practically limitless.

There is no reason why many should not interest themselves so far as to make collections or obtain specimens or make observations for the use of students, though only a few will have the zeal, industry and patience to obtain a real grasp of the subject. There are at present only thirteen students of bees in the United States, and some of these

have done very little. Our country should do better than this and it is hoped that some of the young people who read *Birds and Nature* may become interested, and that later they may become active workers in Apidology.

T. D. A. COCKERELL.
WILMATTE COCKERELL.

WHENCE THE FEATHERS WE WEAR.

Fashion decrees the wearing of feathers. Therefore feathers we must have. But let them be ostrich plumes by all means, since in their attainment, no life need be sacrificed. It was when the demand for these feathers, necessitated an increase in their source of production, that the idea of naturalizing the ostrich suggested itself.

France tried ostrich farming as long ago as 1859 and was successful. Then California with her wonderful resources adopted the new industry. Twenty birds imported from Africa were brought by Doctor Sketchley to Placencia in 1882. Later, fifteen more were added to their number, and in 1891 several flourishing farms were in existence, all of which had successfully hatched strong, healthy birds. Today nearly a million dollars are invested in the industry and the future is full of promise.

The farms at South Pasadena are objects of never failing interest to visitors. This is particularly true in the plucking season. This plucking is not accomplished with a violent laying on of hands. Neither is the bird tied down.

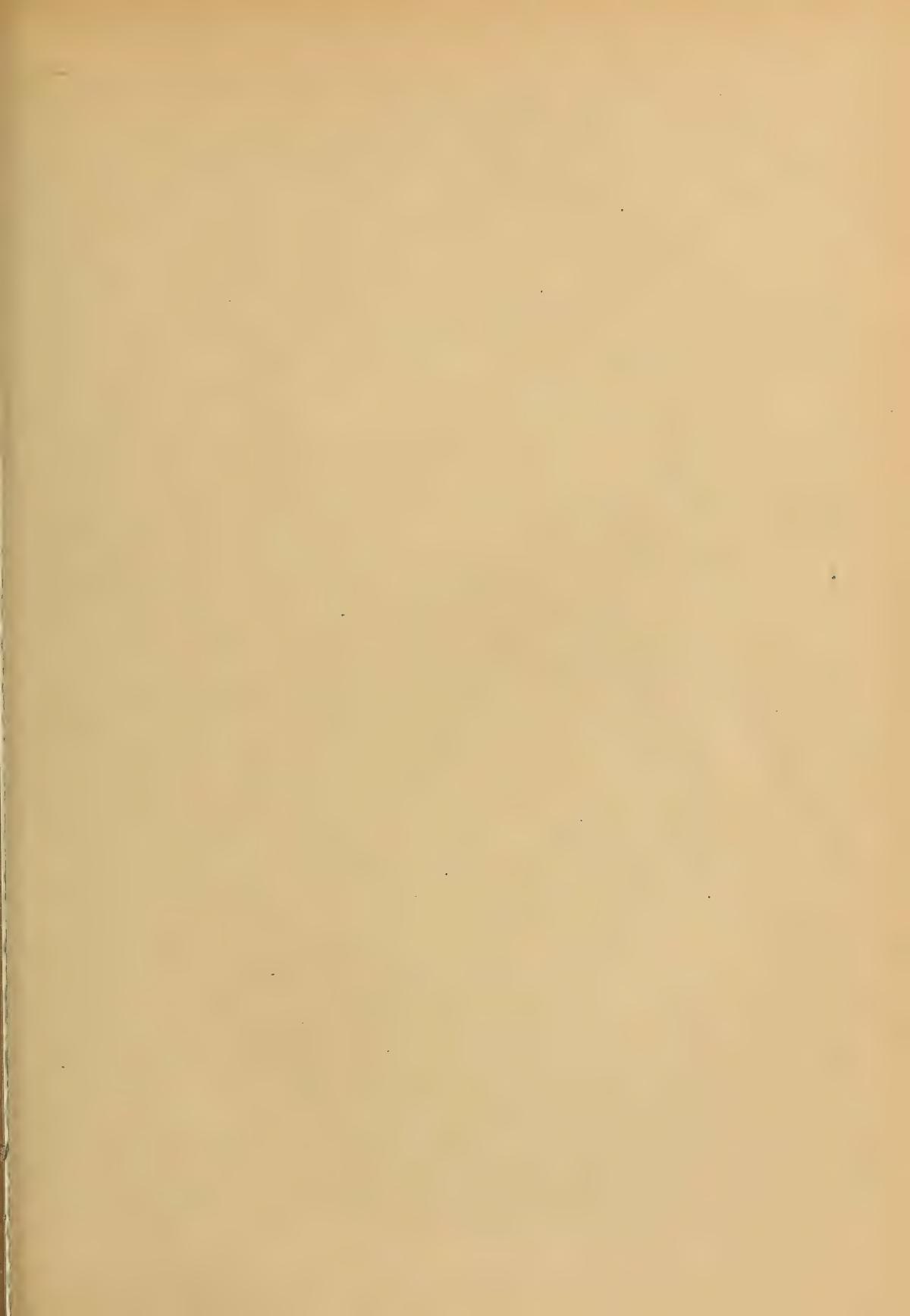
When the time is near the flock is examined and those birds whose feathers are ripening, are selected and placed in a pen, so that they cannot run about, and perhaps, injure their valuable coats. At the moment of operation the bird is

enticed into a narrow passage, where a cloth bag is thrown over its head. Then men, who are perched on platforms outside the pen lean over the top and pluck off the victim's feathers with an odd scissor-like appliance. Wounds, when they occur, which is rare, are dressed immediately. The tail feathers are plucked out, not cut, as they reproduce more readily than those on other parts of the body. Throughout the operation the bird keeps up a dismal howling. Pain, however, is not the cause.

When first plucked, the feathers are grey and brown. They must therefore be dyed or bleached and curled before they are ready for market. The ostrich receives its first plucking at the age of seven months, but the feathers do not reach perfection until the bird is fully twenty-one months old. After this the pickings are made, once in seven months, and, as eighty years is not a great age for an ostrich, the big fellow is a valuable possession. The feathers from older birds are, however, but little esteemed, in fact, these older birds, are usually kept for breeding purposes only.

The birds are generally divided into trios, one male and two females. Each trio requires about two acres of ground to run. The chicks are hatched with incubators.

LOUISE JAMISON.





Flicker.

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THE FLICKER.

(*Colaptes auratus*)

Above him in the sycamore
The Flicker beats a dull tattoo;
Through pawpaw groves the soft airs pour
Gold dust of blooms and fragrance new.

Maurice Thompson, "The Blue Heron."

In the Flicker, Nature has produced one of the most beautiful and one of the most interesting of birds. As we wander through the woods we are greeted by the happy "cheer up" call of this handsome bird and as we draw nearer we may see Mister Flicker seek another and more distant retreat in a series of long, wave-like flights, his golden wings flashing in the sunlight like burnished gold. He is careful to keep the tree between himself and his human observer, and he will take nervous little peeks at us, around the side of the tree, just to keep posted about our movements. A noticeable characteristic of this bird is its habit of perching crosswise on a limb like the perching birds, thus differing from most birds of this order, which always cling to the side of the tree trunk. Another peculiarity in his fondness for hunting insects on the ground.

The wide range of this Woodpecker, from the Atlantic Ocean to the Rocky Mountains, has caused it to receive many different names in different parts of the country. The most notable of these are Yellow-Hammer, Yellow-shafted Flicker, Wake-up, High-holder, High-hole, Clape, Golden-winged Woodpecker and Pigeon Woodpecker. On the Pacific coast the Flicker is replaced by a closely related species called the red-shafted flicker.

The Golden-winged Woodpeckers go south in the fall, although a few individuals remain in the northern states through the winter. They return in the early spring, about the middle of March and mating begins early in May. At this season of the year, these birds beat the "long roll" by tapping rapidly on a hollow tree with a thin covering or shell. This is a signal which seems to be used only during the mating season.

The actions of the males during the season of mating are very amusing and interesting. The great ornithologist, Audubon, has given us one of the best

descriptions of the courtship of the Flickers. He says "Their note is merriment itself, as it imitates a prolonged and jovial laugh, heard at a considerable distance. Several males pursue a female, reach her, and to prove the force and truth of their love bow their heads, spread their tails, and move sideways, backwards, and forward, performing such antics as might induce anyone witnessing them, if not of a most morose temper, to join his laugh to theirs. The female flies to another tree, where she is closely followed by one, two, or even half a dozen of these gay suitors, and where again the same ceremonies are gone through. No fightings occur, no jealousies seem to exist among these beaux, until a marked preference is shown to some individual, when the rejected proceed in search of another female. In this manner, all the Golden-winged Woodpeckers are soon happily mated. Each pair immediately proceed to excavate the trunk of a tree, and finish a hole in it sufficient to contain themselves and their young. Should the male, for instance, be employed, the female is close to him and congratulates him on the removal of every chip which his bill sends through the air. While he rests, he appears to be speaking to her on the most tender subjects. In this manner, by the alternate exertions of each, the hole is dug and finished."

The nest hole may be as much as twenty inches in depth and is dug in a variety of situations. Tree trunks with soft wood are preferred, but the nests are sometimes found in stumps, gate posts, church steeples, between the weatherboards and the cross beams of houses, in barns, and in the nests of bank swallows and kingfishers. It is recorded that a pair once dug a hole to a depth of twenty inches in an old hay stack, and successfully raised a brood of young in it.

Five or six pure white eggs are laid, which measure about an inch in length

by four-fifths of an inch in width. The young leave the nest in about sixteen days. They present a rather queer sight as they sit perched on a branch of the tree near the nest. They remind us of the small boy who is afraid of the water and who remains on the shore while his older companions enjoy a good swim. The young are said to remain in this position for several days before attempting flight. The Flickers raise but one brood in a season.

As regards its food, the Flicker may be considered one of the most beneficial of birds. Investigations carried on by the United States Department of Agriculture showed the contents of the stomachs of this species to contain fifty-six per cent of animal matter, thirty-nine per cent of vegetable matter and five per cent of mineral matter. Of the animal food, about forty-three per cent consists of ants. The Flickers seem to eat almost all kinds of insects, as representatives of the following orders have been found in their stomachs: Ants, Mayflies, caterpillars, bugs, beetles, and grasshoppers and crickets. Spiders and myriapods are also eaten. The contents

of one stomach was made up of more than three thousand small ants. The vegetable food of the Flickers is interesting. The seeds and fruits of about forty different species of plants have been identified from stomach contents, among which are corn, buckwheat, dogwood berries, blueberries, huckleberries, elderberries, cherries, juniper berries, clover seed, acorns and poison ivy seeds. That these Woodpeckers are not harmful to the corn crop is proven by the fact that out of ninety-eight stomachs examined in September and October only four contained corn at all, and this only in very small quantities. At times, the Flickers invade the orchard and eat cherries, peaches, grapes and plums but this they do only to a very limited extent.

In certain parts of the country the Flickers are ruthlessly slaughtered by so-called sportsmen, who find it an easy bird to bag. It is often seen in the market of eastern cities where it is known as Pigeon Woodpecker. For this reason it is more shy than many of the other woodpeckers, and seeks to avoid its greatest enemy, man.

COLLINS THURBER.

“MISS POLLY WALKER.”

A bundle of green and gold and crimson feathers, two sharp bright eyes, a smooth white bill, a pair of gray feet and a sweet voice and you have the picture of Miss Polly Walker in your mind's eye.

An amazingly smart bird is this Mexican double yellow-headed parrot who, when she was purchased, could not crack hemp seed and could only say “Polly.” But now this clever bird, who gave herself the nickname as above, can get into the inside of very hard nuts and can talk, sing and do many comical things that her mistress has taught her.

Mother Goose rhymes are her favorites. She sings all the four lines of “Chick-a-me, chick-a-me, crany crow” and all but the last line of “Jack and

Jill.” She doesn't know the last line but she makes it up so as to end the verse. Polly can sing, “Coon, coon, coon, I wish my color would fade,” but she is not satisfied for sometimes she wishes it was blue and sometimes purple. She calls the cat wonderfully, crows, barks, whistles and imitates every kind of noise. She has been taught not to scream, as many parrots do, and therefore her presence is not disagreeable to the household. She only knows two naughty words, and has a remarkable way of distinguishing ministers, so always to express her feelings before them.

When other parrots are brought to see her and she gets tired of their company, she tells them to “shut up; you

had better go home," and the like polite language. Polly is very fond of her mistress and will kiss her through the bars of her pretty brass cage. She is very jealous of her mistress and resents any love being bestowed upon any member of the family before her, by her mistress. She knows the master of the house and calls him "good-by" when she sees him leaving after breakfast. Her breakfast is boiled milk and

crackers and she asks for it early in the morning.

Polly is a smart bird of beautiful plumage. Her mistress was obliged to send her to the country this summer, so Polly has been rustivating in company with another bright bird. She has learned many wonderful things and is prepared to surprise her mistress upon her return after the close of the World's Fair.

FANNIE A. CAROTHERS.

JOLLY WOODSMEN.

Such a jolly band of woodsmen
Have been working at our trees;
You should hear their strokes a ringing
Vibrant, clear upon the breeze.

Now their leader's called "Old Flicker,"
And his suit is mostly brown,
Touched with black and red and yellow;
He's a sturdy, noisy clown.

There's a chap—and he's the dandy—
In his coat of black and white,
Yellow waistcoat, cap of scarlet;
Maple "sap" is his delight.

We must not forget the reckless,
Gallant "Redhead"—movements fleet;
Cap of crimson, white his waistcoat,
Black and white his suit so neat.

Then there's "Downy"—just a laddie—
But a worker full of might;
Crimson collar, waistcoat snowy,
Coat of black all striped with white.

Day by day, while summer lingers,
You will find them busy—all;
Yet our trees beneath their onslaught
Scarcely ever earthward fall.

Jolly woodsmen: how we miss you
When the winds of Winter roar;
But we always bid you welcome
When fair Spring knocks at our door.

—SAMUEL GILMORE PALMER.

THE BLACK TERN.

(*Hydrochelidon uigra surinamensis.*)

The range of the Black Tern is extensive, including both temperate and tropical America from Alaska and the Fur Countries, southward to Brazil and Chile. Its breeding range extends from Kansas and Illinois northward, but not east of the Alleghany Mountains. The flight of this beautiful bird is graceful and swift and apparently it flies without effort. It flies with the freedom of a swallow, and some of its sister species which frequent the seacoast are called sea swallows. The Black Tern, however, is a bird of the interior where it frequents the marshes and, in its search for food, may fly long distances over the prairies, often many miles from its home marsh. In fact, it has been called the Prairie Tern and the Prairie Swallow.

In favorable localities, the Black Terns are abundant unless they have been driven away by the persistent abuse of the collector of eggs, the plume hunters, and the man with a gun who likes to shoot at a swiftly moving object. In many localities, where they were once common, they are now rarely seen or have disappeared altogether.

It is a deplorable fact that, in many localities, this, our most interesting Tern is being slowly but surely either exterminated or driven away, and in time, unless indiscriminate slaughter is checked, it will go the way of the passenger pigeon. Its larger related species which inhabit the larger bodies of water, nesting on isolated or unfrequented shores, especially those of the seacoast islands, are to a great extent protected from hunters and egg collectors. The Black Tern, on the other hand, ranging inland, nests on the borders of the smaller lakes and sloughs. Here it not only beautifies the landscape with its elegant flight, but also gives the students of bird-life, who are unable to visit the seacoast, an opportunity of observing the nesting, feeding and other habits of this family of birds. Wherever the shores of our smaller lakes are at all isolated, or where a wet meadow gradu-

ally slopes into the water, an observer is quite likely to find the Black Terns nesting in colonies, the nests usually being placed about seventy-five to one hundred feet apart. But little or no attempt is made to construct a nest, the eggs being laid on a small heap of dead grass or reeds, which are not infrequently floating on the water.

In Northern Illinois and Indiana, in the vicinity of Lake Michigan, on account of persecution, the few surviving colonies of Black Tern are now nesting in the most inaccessible locations, selecting the tops of old musk-rat houses and masses of broken reeds which rest upon the water. Ten years ago I counted over one hundred nests on Lake Calumet, near Chicago, and last year I saw but two birds and no nests in the same locality.

The action of the Black Terns on the approach of an intruder in the vicinity of their nesting sites, is very interesting. While a quarter of a mile or so away from the nests one will notice an uneasy movement among the birds. On a nearer approach an occasional individual, bolder than the others, will start toward the intruder, following a straight line and with great speed; it will finally circle and return to the colony. When still nearer the nests, several of the birds will fly around and make short dashes at the object of their resentment. Standing quietly for a time, the observer will see some of the birds hovering over a spot in the marsh, this action often marking the location of the nests. Approaching still closer to the homes of the birds, the entire colony is soon in the air, crying and scolding the one who would invade their domain, and dashing about his head in a most threatening manner.

The Black Terns show great affection for their young and are ready to defend them even in the face of death. I have seen several instances where the parents have lost their lives while defending their young from the attacks of minks, muskrats and other animals. In the collection of



The Chicago Academy of Sciences there is a young grebe which I picked up dead near the nest of a Black Tern. The grebe had crawled on the floating debris to rest. The Tern had killed it by thrusting its bill through its eye.

It is often quite difficult to find the nests, even after a colony has been located. The eggs are almost the color of the wet and muddy reeds on which they are laid. It has been said that the birds will also roll the eggs in the mud in order to make them less observable.

Apparently the Black Terns do not feed upon fish at any time. Their foods consist of aquatic insects and largely of dragon flies which they catch while on the wing. Mr. Thompson says: "The

bird may frequently be seen dashing about in a zig-zag manner so swiftly the eye can offer no explanation of its motive until, on the resumption of its ordinary flight, a large dragon fly is seen hanging from its bill and sufficiently accounts for the erratic movements of the bird. After having captured its prey in this way, I have frequently seen a Tern apparently playing with its victim, letting it go and catching it again, or if it is unable to fly, dropping it, and darting under it to seize it again and again before it touches the water." The Terns will fly long distances over the prairies and many miles from their nesting marshes in their hunt for dragon flies.

FRANK MORLEY WOODRUFF.

AN AUNT JANE STORY.

BUTTERFLIES.

The children at Woodland had captured a beautiful Butterfly in their new net. As they crowded around their aunt to show her the fine specimen she gave them a little talk on Butterflies.

"Do you know," children, she began, "that there is an analogy between insects and flowers?"

"No, indeed, I do not see any likeness," said Alice.

"I do," cried Bird, "if that is what analogy means, there is an orchid which looks just like a Butterfly.

"I mean this, that the seed, bud, and corolla of the flower correspond to the egg, chrysalis and widespread wings of the insect. Especially is this the case in reference to those flowers of the air—the Butterflies."

"Do tell us more," pleaded the interested children.

"Certainly, with pleasure, I only wish I had more knowledge at my command, when I see your eager faces. The eggs of Butterflies are either cone, spindle, or thimble-shaped. In color they are red, brown, yellow, or else deep green with a net-work of white. Though very minute in size, the surfaces are often carved, ribbed or pitted, though some are quite smooth."

"That sounds just as if you were describing the flower seeds you showed us under the microscope the other day," exclaimed Madge. "Oh, but they were beauties!"

"One kind," Aunt Jane continued, "has a lid at the end, which opens easily to allow the insect to escape. The surface of the eggs is covered with a kind of varnish which protects them from the weather, and also seems to fasten

them to some object for safety. Sometimes the eggs are deposited singly, but often in clusters, numbering from a dozen to a hundred. They usually hatch in from three to seven days. The caterpillar, which the egg produces, gets its name from 'cates,' food, and 'pillar' to rob. He is a great glutton and can, in twenty-four hours, eat double his own weight."

"I am ashamed of myself," exclaimed Edith, "I have been saying the word 'caterpillar' all my life and never thought about what the name meant."

"You are not alone in your ignorance, if that is any comfort," cried John.

"The caterpillar has thirteen joints, three pair of legs and several prop legs or prolegs, which it loses while in its chrysalis state. It molts three or four times and remains in the pupa state from three to fourteen days. The word chrysalis is from the Greek and means 'golden,' the usual color of the cocoon."

"How stupid," said Howard, "we have several boxes with chrysalids of various creatures and yet have never thought to ask how the queer little mummy-cases came to have that name. 'Golden' may be the usual color, but I have some soft-gray ones also."

"Naturalists," continued Aunt Jane, "have experimented with the caterpillar, and hope to be able to change it into its chrysalis state at pleasure, and to forward, stop or regulate, all its developments. When the Butterfly comes out of its prison-house its wings are no larger than a man's finger-nail, but it soon forces air into the hollow frame work of the wings until they expand to their full size. It then waits awhile to become thoroughly dry, for it had to moisten the cocoon in order to escape from it, and then it sails away, looking like a gorgeous blossom on the wing, or else a wandering spot of sunshine."

"I am much obliged to you for explaining how such large wings could be accommodated in such a small case," said John.

"Think now what a marvelous creature the once gluttonous caterpillar has become! Its wings are covered with a rich mosaic of scales, hundreds of thousands of them on each wing of the small-

est specimen. Its compound eyes are a noticeable feature. If each facet has the power of separate vision, the common Butterfly sees with seventy-three thousand eyes."

"Whew," whistled John, "no wonder it is hard to catch."

"Its tongue," Aunt Jane continued, "is as long as its entire body. The antennae are two long, jointed organs, and supposed to be this insect's instruments of hearing. The Butterfly may be distinguished from its night relative, the moth, by the knobs on the ends of the antennae. Also by the erect position of its wings when at rest, and by the appearance of the undersides of the wings, which also have brilliancy of coloring. Butterflies find their food in flowers, grasses and sap of wood. I have often noticed them sipping on fresh cut chips. Butterflies are true children of the sun, and love to bask in its rays; hence, if found in the woods, it will be in a sunshiny spot."

"Can you tell us how they spend the night?" Alice inquired.

"Perhaps in some such way as they do a bad day, for, when it is cold and damp, they retire, as if for the night, by selecting some leaf to which they attach themselves on the underside, with wings folded back to back. The hooks in their feet enable them to anchor themselves securely even when the wind blows. To know Butterflies by their names adds much to one's interest in them."

"Please, Auntie, spare us the long Latin names," cried the children in concert.

"The scientific names '*Papilio asterias*' and '*Pieris napi*' are not more difficult to speak than the names of some of your acquaintances. Even when the scientific name of a Butterfly is as long as the insect itself as '*Lycaena psendargiolus*', still it strengthens the memory to master it. The common names of Butterflies are very easy to remember."

"Auntie, do you think a Butterfly could be tamed?" Madge asked. "I would love to have one for a pet."

"Yes, they are easily tamed. I have heard that a lady tried the experiment by keeping a newly-hatched one in a cage made of threads of bamboo. She fed it on honey and placed flowers and moss

in the cage. It became so well tamed that she allowed it to exercise in the garden every day, after which it would return to her out-stretched finger, and allow itself to be replaced in its cage. It died at the end of three weeks. Another cocoon hatched and was placed in the same cage. This Butterfly soon learned that by folding its wings it could escape through the openings of the cage, which it did every day, but after sunning itself in the window always returned to its pleasant captivity."

"How charming," Edith observed, "it must have been for the lady to be on terms of intimacy with such a fragile, beautiful child of the air."

"The Butterfly is a favorite with Dame Nature," Aunt Jane continued. "She has given it a monopoly of the nectar in long-tubed flowers. Its proboscis is long and hollow, and it sucks the honey from the extreme tip. But Nature loves the flowers, too, so the mouth of the Butterfly is covered with hairs, to which the flower pollen clings, and is thus carried by the Butterfly to fertilize other flowers which it visits. The Butterfly is not, therefore, an idle beauty, dancing in the sunshine, but it has an important work to do for the perpetuation and perfection of the long-tubed flowers."

BELLE PAXSON DRURY.

THE BUTTERFLY.

Frail little butterfly,
'Mid these mighty mountains,
Fluttering 'twixt summits high,
Sipping at the fountains.
Fearless as fragile, thou,
Heedless of all danger,
Floating where blue flax-flowers bow,
Exquisite, rare ranger!

Sunlit meadows, soft and low
Hold thee, gently hovering.
Far above may tempests blow—
Lowliness thy covering!
So thy little day is spent,
Vastness all around thee!
Happy in thy sweet content,
Till the night has found thee!

—MRS. MERRILL E. GATES.

THE MEADOWLARK.

(*Sturnella magna.*)

Minstrel of melody,
How shall I chaunt of thee,
Floating in meadows athrill with thy song?
Fluting anear my feet,
Plaintive, and wildly sweet—
O, could thy spirit to mortal belong!

Lloyd Mifflin, "To a Meadow-Lark."

The Meadowlarks are general favorites and are one of the most valuable of the farmer's wild friends. They frequent the meadows, fields, marshes and pastures of eastern North America, from Florida and the coast of the Gulf of Mexico, northward, to the southern portion of the British Possessions, and westward, nearly to the Great Plains. In the more thickly settled parts of their range the Meadowlarks are shy birds, while in other localities they are quite the reverse and are easily approached. This is especially true in the southern and more western portions of their range. The Meadowlarks are at home upon the ground. There they obtain all their food, and there they also build their nests and rear their young. In their favorite resorts they are well protected by the tall grass or other herbage, from general observation. They are also well protected by the mingled colors of the plumage of their backs and sides, which correspond quite well with the dried vegetation of their habitat.

One of their most marked characteristics is the rich yellow plumage of the throat, breast and upper portion of the belly. This brilliant color, emphasized as it is by the prominent black crescent of the breast, is not observable when the birds are walking in the fields and meadows.

The Meadowlark is an American and, as Mr. Burroughs has said, his note is one of our characteristic April sounds. The clearness, sweetness and plaintive

quality of his simple notes form a rich melody which should give him a prominent position among our song birds. His is a ringing melody and full of character. It quickly attracts and appeals to the sympathetic mind of the true lovers of Nature. Mr. Burroughs has beautifully described his song: "What a twang there is about this bird, and what vigor! It smacks of the soil. It is the winged embodiment of the spirit of our spring meadows. What emphasis in its 'z-d-t, z-d-t,' and what character in its long, piercing note! Its straight, tapering, sharp beak is typical of its voice. Its note goes like a shaft from a crossbow; it is a little too sharp and piercing when near at hand, but, heard in the proper perspective, it is eminently melodious and pleasing. It is one of the major notes of the fields at this season. In fact, it easily dominates all others. 'Spring o' the year! spring o' the year!' it says, with a long-drawn breath, a little plaintive, but not complaining or melancholy. At times it indulges in something much more intricate and lark-like while hovering on the wing in midair, but a song is beyond the compass of its instrument, and the attempt usually ends in a breakdown. A clear, sweet, strong, high-keyed note, uttered from some knoll or rock, or stake in the fence, is its proper vocal performance." Mr. Ridgway has said that the song of the Meadowlark "is usually interpreted by the country folks as intimating that '*laziness will kill you,*' while others imagine it to say: '*peek—you can't*



see me,—a very appropriate translation, we think, in the case of a bird which, like this one, plays at 'hide and seek' with us in the meadow." But syllabic rendering of this tender song, "one of the finest to be heard in our rural districts," is very far from satisfactory for it conveys no impression of the wonderful sweetness of its notes. The song must be heard to be appreciated.

The Meadowlark's power of flight is quite limited, its body being quite heavy and its wings too short for prolonged and rapid flying. In rising from the ground its movements are laborious and awkward, resembling, somewhat, those of a young bird. When it has risen a few feet, it flies straight away by alternate periods of rapid movements of the wings and short distances of sailing. Its flight is similar to that of the quail but is more regular and not as rapid. With the exception of the breeding season, the Meadowlarks are more or less gregarious, especially in the fall, when a number of families unite and seek their food together, though each one seems to roam over the field independently of its fellows. However, if one of their number is flushed and takes wings, the others within hearing will usually follow its example.

Major Bendire believed that the Meadowlarks remained paired for life. It is certainly true that one is seldom found alone. Both sexes assist in the building of their home, which is always on the ground by the side of a tuft of grass or a bunch of weeds. Either a natural depression is selected or one is scratched by the birds. The nest is a snug but unpretentious structure of dried grasses, weed stalks, straw and occasionally other materials, and is lined with finer grasses. Sometimes the nest is left open, but usually, though always well hidden, it is covered by an arched roof or dome by weaving standing blades of grass and stalks overhead. At times, the entrance to the nest is through a covered passage which is nearly straight, or may be winding, and from one to three feet in length. The female is a close sitter and will remain on the nest until almost stepped upon. She seems to rely for protection

on the coloring of the plumage of her back, which resembles that of the dried grass of her environment, the high grass around her, and the covering of her nest. When she is finally forced to leave her nest, she usually runs a short distance away from the locality before rising. Unfortunately the nesting habits of the Meadowlark are somewhat opposed to its best interests. Nesting on the ground, its eggs and young are exposed to many enemies. Countless eggs and young are destroyed every season by snakes and field vermin. But this is not all, for man is also a destructive agent. In some localities, nests, eggs and young are frequently destroyed by mowing machines. This is especially true in the mowing of clover fields.

The Meadowlark is one of our most beneficial birds and should be protected in every manner possible. Not one word can be said against this feathered friend of the farmer and favorite of most people. Its economic value can hardly be overestimated. Professor Beal says: "It is one of the most useful allies to agriculture, standing almost without a peer as a destroyer of noxious insects." Professor Beal also says: "In summing up the record of the Meadowlark, two points should be especially noted: (1) The bird is most emphatically an insect eater, evidently preferring insects above all other foods; and (2) in default of its favorite food it can subsist on a vegetable diet." His examination of two hundred and thirty-eight stomachs revealed seventy-three per cent of animal and twenty-seven per cent of vegetable matter. The latter food consisted mainly of the seeds of weeds, grasses, and a little grain. "No sprouting corn was found in any stomach, and no grain of any kind was found in stomachs taken in summer; the largest quantity was eaten in January, when other food was scarce. Grasshoppers formed sixty-nine per cent of the food found in the stomachs of those birds taken in the month of August."

Those to whom the Meadowlarks are of economic value should see that they are jealously protected from hunters and other enemies; and those who only ap-

preciate the sweet sound of their wild,
rich and ringing voices and their beauty
and grace, should also see that they are
not molested. All should join with the
poet in saying to these birds:

“And nevermore will I thy race molest;
Then plume thy dappled pinions, reckless
rear
Thy taper neck, and show thy golden breast.
I prize my freedom, nor is thine less dear,
Then fearless soar and sing in native free-
dom blest.”

THE BOBOLINK.

Have you heard the Bobolink,
With his merry *clank-o-clink*,
On a brier by the roadside balancing?
Cocking bright eyes, beady, bold,
Telling all that can be told,
Of the joy of love and living in the Spring?

There's a singer worth your while!
I would journey many a mile,
Just to hear him lead the festival of June:
In his black and gold attire,
Quite the dandy of the choir,
Isn't Summer's sweetest story in that tune?

So hilarious is he,
Epigram and repartee,
Seem to sparkle in his effervescent song;
Swaying on a thistle top,
Trilling without pause or stop,
Scattering his vocal jewels all day long.

He's a good opinion, too,
Of his talents. Watch him, do,
Showing off with such a lot of feathered fuss!
Do you really suppose,
That his Sunday name he knows
To be "*Dolichonyx oryzivorus*?"

—LULU WHEDON MITCHELL.

The beautiful is as useful as the useful.—Victor Hugo.

BIRDS AND NATURE

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BIRDS AND NATURE.

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THE WAYSIDE SPRING.

Fair dweller by the dusty way,
Bright saint within a mossy shrine,
The tribute of a heart today
Weary and worn is thine.

The earliest blossoms of the year,
The sweet-briar and the violet,
The pious hand of Spring has here
Upon thine altar set.

And not alone to thee is given
The homage of the pilgrim's knee,
But oft the sweetest birds of heaven
Glide down and sing to thee.

And here the wagoner blocks his wheels
To quaff the cooling, generous boon;
Here, from the sultry harvest fields,
The reapers rest at noon.

Here daily from his beechen cell,
The hermit squirrel steals to drink,
And flocks, which cluster to their bell,
Recline along thy brink.

And oft the beggar, masked with tan,
With rusty garments gray with dust,
Here sits and dips his little can,
And breaks his scanty crust;

And lulled beside the whispering stream
Off drops to slumber unawares,
And sees the angels of his dream
Upon celestials stairs.

Dear dweller by the dusty way,
Thou saint within a mossy shrine,
The tribute of a heart today
Weary and worn is thine.

—THOMAS BUCHANAN READ.

THE BOHEMIAN WAXWING.

(*Ampelis garrulus.*)

The words of Neltje Blanchan give expression to one's thoughts while watching a flock of Bohemian Waxwings as they perch among the branches of the cedars. "Exquisitely clothed in silky-gray feathers that no berry juice is ever permitted to stain, they are dainty, gentle, aristocratic-looking birds, a trifle heavy and indolent, perhaps, when walking on the ground or perching; but as they fly in compact squads just above the tree-tops, their flight is exceedingly swift and graceful."

These dainty and mild-mannered "Waxen Chatterers"—they always seem to be speaking to their companion in a soft, oft-repeated lisping call—are more than welcome visitors, for they come to us in the winter when nearly all the birds have gone to their southern resorts. Excepting during the breeding season, the Waxwings are decidedly gregarious. In the fall young and old, male and female, gather in numerous flocks and wander in a most irregular manner in search of good feeding grounds. At such times, these birds exhibit a most sociable and amiable disposition and are affectionate toward their associates.

Frequently a number may be seen sitting in a row upon a branch, resting from their labors. During the wandering season of each year, their habits are very uncertain and they may be called rovers. At one time it was said that during fifteen years there had been no record of the occurrence of the Waxwings in New England. In the year 1903 Dr. Dawson wrote: "Years have passed since any have been seen in Ohio, but they are likely to reappear any winter." It may be said that the Bohemian Waxwings are irregular but occasionally abundant winter residents in various parts of the northern portions of the United States. A lack of food in one locality and an abundance in another is the incentive which causes a flock of Waxwings to suddenly move on. They are

very fond of juniper berries and a locality where these are abundant is quite sure to attract them. Many years ago a very large flock which seemed to cover the berry bearing juniper shrubs of an area about ten rods square, was observed in northern Illinois. "While feeding, those in the rear were continually flying and alighting in advance, thus keeping the flock moving so that it was difficult to overtake them. A few days later the flock separated into numerous smaller ones, and so departed for the north."

The Bohemian Waxwings are also known as the Black-throated and Lapland Waxwings and they are not infrequently called Silktails. Their range includes the northern portions of the northern hemisphere where they breed in the coniferous forests. In winter, they migrate southward, but very irregularly, as far as Ohio, Illinois, Kansas, Colorado and northern California. Like their relations, the cedar waxwings, their appearance in any locality during the winter is so uncertain they may well be called "roving gypsies," and the similarity is emphasized by the fact that they feed and travel in bands. Then, too, these birds rarely exert themselves, excepting to satisfy hunger and they have been known to rest on the branches of a tree for hours at a time. While their flight is easy and graceful, locomotion on the ground is hard for them, and they walk with difficulty. It would seem that all natural objects which are somewhat erratic in their appearance, or appear only at long intervals, have been associated with superstitious ideas. The Bohemian Waxwings have not been free from association with evil. In the southern portion of its European range, as in Germany, their appearance in enormous flocks, after intervals of several years' absence, was many years ago regarded by some persons as a sure indication of the approach of an era of pestilence, famine, or war.



BOHEMIAN WAXWING.
(*Ampelis garrulus*).
About Life-size.

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The Waxwings are also quite erratic in their breeding habits. Localities in which they have nested one season may not be frequented by them again for some years, if ever. Their nests are usually hidden among the branches of evergreen trees where they are not readily seen and often are beyond the climbing ability of man. Mr. Robert Kennicott was perhaps the first ornithologist to find a nest in America. This he discovered near Fort Yukon in July, 1861. This "nest was placed on the side of a branch of a small spruce which was growing on the edge of a clump, on low ground. The nest was at an elevation of about eighteen feet. It was large, the base being made of dry spruce twigs, and the nest itself constructed of fine grass and moose-hair,

lined internally with large feathers." While their nests are always loose and bulky, the materials used vary. Among these materials are twigs, moss, dried grass and weed stems, and they are nearly always lined with finer materials of the same kind and with feathers, hair and leaves. The nests are usually placed near the outer end of a limb and from fifteen to twenty-five feet above the ground.

These gentle and beautiful boreal birds are far from harmful to the interests of man. During the summer they feed largely upon insects and in the winter season upon wild fruits. They are also very fond of the berries of the mountain ash and the red cedar.

AMONG THE TREES.

THE ELM.

High up among the hills a little brook babbled merrily along; here, singing softly to itself as it flowed o'er its shallow, pebbly bottom, its bright, clear, pure waters rippling and dancing in the sunlight; there, murmuring sweetly to the bending grasses and starry flowers as it mirrored their graceful forms in its cool, shadowy depths, or again plunging headlong over some slight declivity in its mad haste. Onward and onward it flowed, steadily and steadily it grew as it played with the tall rushes which grew along its margin, or whispered softly to the pretty yellow warblers which built in the willows along its banks; sometimes it widened into a pool and the meek-eyed cows would quench their thirst or stand belly-deep in its cool waters. Onward, still onward, until, where a great elm waved its graceful branches in the wind, it joined the current of the mighty, rushing river, its pure, sweet waters losing themselves in those of the larger stream.

Beneath this elm on a bright day in golden October sat Mabel. Her head rested against the deeply furrowed bark of the tree and now and again she

caught glimpses of the pretty, deserted nests of the oriole.

"I wonder where the orioles are now," she thought. "How pretty they used to look as they flitted about in their gorgeous plumage! I wonder if the old tree misses them! I do, and surely it must."

"I do miss them," seemed wafted to her ears on the wind. "Yes, I miss them, but they will come again in the spring."

"Oh how delightful to look at it in that way. I'm dull and sad, dear Tree, at the departure of all my summer friends—the birds and the flowers; so please talk to me and I'll prove a very attentive listener."

For answer the tree waved all its great plumes and its glad, free tones reached Mabel's ears.

"Although our family is small, consisting of only six members, and though we cannot boast the ancient lineage of my friends the Willow and the Oak, nor of the very ancient Conifers, still we are an ancient race, for traces of us exist in the tertiary rocks of, if you will believe me, that cold country Green-

land, where nothing now grows to any size.

"We are a singularly graceful tree," said the Elm proudly.

"I am aware of that," replied Mabel. "I have often admired the graceful poise of your branches, especially in winter when you are stripped of your beautiful dress. I have admired your sinewy strength and often noticed you outlined against those dark pines when the winds rocked you, as they swept howling past like some monster in rage."

"Yes; the peculiar twisting and interlacing of our fibers, which makes our wood so hard to split, gives us a toughness, a hidden strength, to combat with those wild storms which come when the Wing-god is let loose.

"The Baltimore oriole loves to hang its nest from the ends of our branches, for there their young are safe from the depredations of boys. How their little ones sway in the soft summer winds, lulled to sleep at nightfall by the murmur of the water at our feet, for we, like the Willow, love the water."

"Have you any pretty legends to tell me, Elm tree?"

"Not about our family. I can tell you one about the Baltimore Oriole if you like; his life is so interwoven with ours that he seems a portion of us."

"The Baltimore Oriole is a great favorite of mine, and I should think by the number of his airy castles swinging from your branches that you were a favorite of his; but tell me the legend. I would like to hear it."

"Well, years ago in a beautiful garden, filled with gorgeous flowers, there grew an orange and black tulip which continually looked up into the blue depths of the sky above it. How it longed to be a bird that it might soar into those depths, to know the joy of feeling the wind rush through its feathers; to have a closer view of those great, fleecy clouds, whose outlines glistened like silver when touched by the rays of the god of day; to pour out its soul in grateful praise to its Creator and feel the whole air vibrating with the volume of its music. One day the gods took pity on this lovely tulip and gratified its longing. The result is our beauti-

ful oriole, which makes the orchards and the river banks resound with its liquid, pulsing notes. As one of your writers says:

In a forgotten garden ages back,
Did an orange tulip, striped with black,
Yearn towards Heaven, until its voice was heard,
Desiring unspeakably to be a bird!

"That is pretty, but can you tell me why it is that the female has not the brilliant plumage of her mate?"

"To be sure I can. It is a wise providence indeed that she has not, for she could be more readily seen when on the nest and would be a great target for boys. The young birds, too, are not so gaudily dressed."

"I understand. The Willow told me that birds had legends. Do you know any more of them, Elm Tree?"

The tree was silent, not a leaf stirred in the clear air. The water flowed quietly by and Mabel could trace its course by the willows fringing its banks. She missed the carolling of birds, the bleating sheep, the lowing of cattle, which she had so often heard from this haunt. Presently a gust of wind set the tall grasses about her waving to and fro, and the drooping branches of the elm tree swayed in the breeze, as with a sound deep and reverential the words came:

"In Cambridge, one of the suburbs of Boston, stands a great relative of mine. You must know that Cambridge wears the classic air of a University town, for there embowered in the shadow of majestic elms is situated "Fair Harvard." Almost within a stone's throw of the University, in the center of a broad, old-fashioned street, is an aged tree, before which stands a granite tablet, whose gilded letters tell that this is Washington's Elm. Beneath this tree did the Father of his country step forth, draw his sword, and in a few simple words assume the command of the American Army. We know something of the hardships borne, or repulses met, of the discouragements overcome, until at last victory was his. Though not a phenomenal tree in size, it was estimated that every year it developed seven millions of leaves, which exposed to the air a surface equal to

about five acres. This elm is showing the ravages of time, for some of its upper branches are dead and the time will come when it is laid low. It is to be hoped that its site will be marked by a suitable memorial as was that of the "Treaty Tree."

"Tell me about the 'Treaty Tree.' Was it an Elm?"

"Yes. On the banks of the Delaware stood this tree under which William Penn made his famous treaty with the Indians. Not for lands, nor for gold, was this treaty made, but for peace and friendship. It was prostrated by a storm in March, 1810, when it proved to be two hundred and eighty-three years old. On its site the Penn Society erected a monument with a suitable inscription."

Mabel pondered awhile on these bits of history as she looked up at the great swaying branches.

"You are such a pretty tree," she said, "that I wonder why you are not more universally planted in the cities as shade trees."

A gust of wind shook the tree and set all its myriads of leaves stirring, some loosened their hold on the parent stem and fell around the maiden like a shower of sunbeams tumbling against one another in mad confusion. Some scurried here and there like birds, others fell on her hair or brushed against her cheek, and her voice rang out merrily on the autumn air as she noticed how the wind played with them. Picking up a leaf she exclaimed:

"Why, how rough you are; you are just covered with little short hairs."

"That is just the reason why we are not planted to a greater extent in the cities. We do not thrive there; the dust and dirt gather on our leaves, which are our lungs, and chokes us, therefore we smother and die. We love the open fields, the water side, where we can have plenty of moisture and abundant room to develop."

"Examine that leaf closely and you will see that it has an unequal base, which is a characteristic of the Elm family. Our young leaves are crimped like frills in beautiful regular plaits, with a point at the end of each, then folded in two halves, thus they take up less room in their winter beds."

"Oh, that's what makes those little notches all around the outside of the leaf."

"In some parts of England Elm leaves are gathered in sacks and kept as food for cattle, which are said to like them better than oats. Some dishonest people dry them, and then roll and mix them with the tea which they sell."

"There is a large-leaved elm in England which bears the name of Wych Elm, for the reason that the dairy maids, in some parts, will not begin to churn until they have gathered a branch of it, which they push through a hole in the churn. They claim that the butter will not come unless they do; for this reason it has earned its name."

"The tall small-leaved elm which is usually called English Elm is used in Italy as a support for vines. This tree has not the graceful drooping habit of other elms but has the appearance of an oak. Some claim it was brought to England by the Romans when they conquered it and subjected it to Roman rule; others again claim that it was introduced at a much later date by the Crusaders."

"Richard the Lion-hearted was a Crusader."

"Yes, and left his kingdom to be ruled by another. Well, this particular variety of Elm is barren and therefore devoted by the ancient poets to the infernal gods. Greeks and Romans alike considered all such trees funereal trees."

"Why," said Mabel in amazement, "I did not know that one of you either blossomed or bore fruit."

"Well that is not so much to be wondered at, as we bear our blossoms on the topmost branches, and as we grow to the height of eighty or one hundred feet a little mite like you cannot see them. When March comes with its winds and lengthening days, when the warm wind comes up from the south, and the sun pours his life-giving beams down on us, we feel the sap quickening within us and know that spring is here. We therefore seal this knowledge with flowers, not leaves, for it is the law of the wildwood that blossoms come first. The reason of this is that we depend upon the wind to carry our pollen and fertilize our flowers. Our blossoms are tiny and reddish brown in

color, so insignificant and so high up are they that the world, like you, passes beneath and says, 'The Elm never blossoms.' Six weeks after blossoming, when the leaves appear, we bear fruit, flat, green samaras, winged all round and of which pigeons and poultry are very fond."

"Are you a Slippery Elm Tree?" asked Mabel, as visions of her school days rose before her.

"No; I am a White or American Elm. The Red Elm is the one whose inner bark bears that name; it is of much value for its medicinal qualities. The red man of the forest knew full well what a grateful drink it was to one suffering with affections of the throat and lungs.

"In Norway during scarcity of food the inner bark of the elm is often ground and made into bread, thus adding to the scanty larder."

There was silence for a time. Mabel looked down at the mingling of the waters, then at the swiftly flowing current of the larger stream, bearing on its broad bosom the brown leaves of the cottonwood. A strange fancy flitted through her brain; the stream was Life and the leaves were people borne onward by its restless tide; some seemed drifting gaily onward, others again as though they went against their will, slowly at first, then faster, as if impelled by some hidden force.

"I have been thinking," seemed to come from the Elm Tree, "of a certain avenue in Windsor Park. It is a double row of elms three miles long and was planted to commemorate the day when Charles

II. was restored to the throne in 1660. There are sixteen hundred and sixty trees in the avenue, one for each year. Some of these ancient trees measure forty-two feet around their trunks. How like a large cathedral must it be, with one central nave and two side aisles, over which the branches meet and interlace in beautiful arches, the feathered choristers ever present with their songs of praise."

"It would indeed be grand," said Mabel, "I have never yet seen a cathedral which impressed me as much as the woods, especially in the springtime, when the leaves are not yet fully grown, and through their delicate tracery can be seen the trunks and branches, like so many pillars supporting the vaulted roof of delicate green outlined against a deep blue sky."

"According to official documents still in existence there stands an elm tree in the Department of Ardeche in France, which was planted on the grave of a nobleman in the year 1202. This would make that elm the oldest living representative of our family.

"My family history is finished, fair maid; soon we will be bare and leafless and toss our gaunt arms to the un pitying winter skies. Our leaf buds are warm and snug; we are fully prepared for what comes. In the warm spring days which will follow you must come to me and I will toss some of my tiny blossoms at your feet. Until then, fair maid, good-bye," and a perfect shower of yellow leaves fell around Mabel as she turned away.

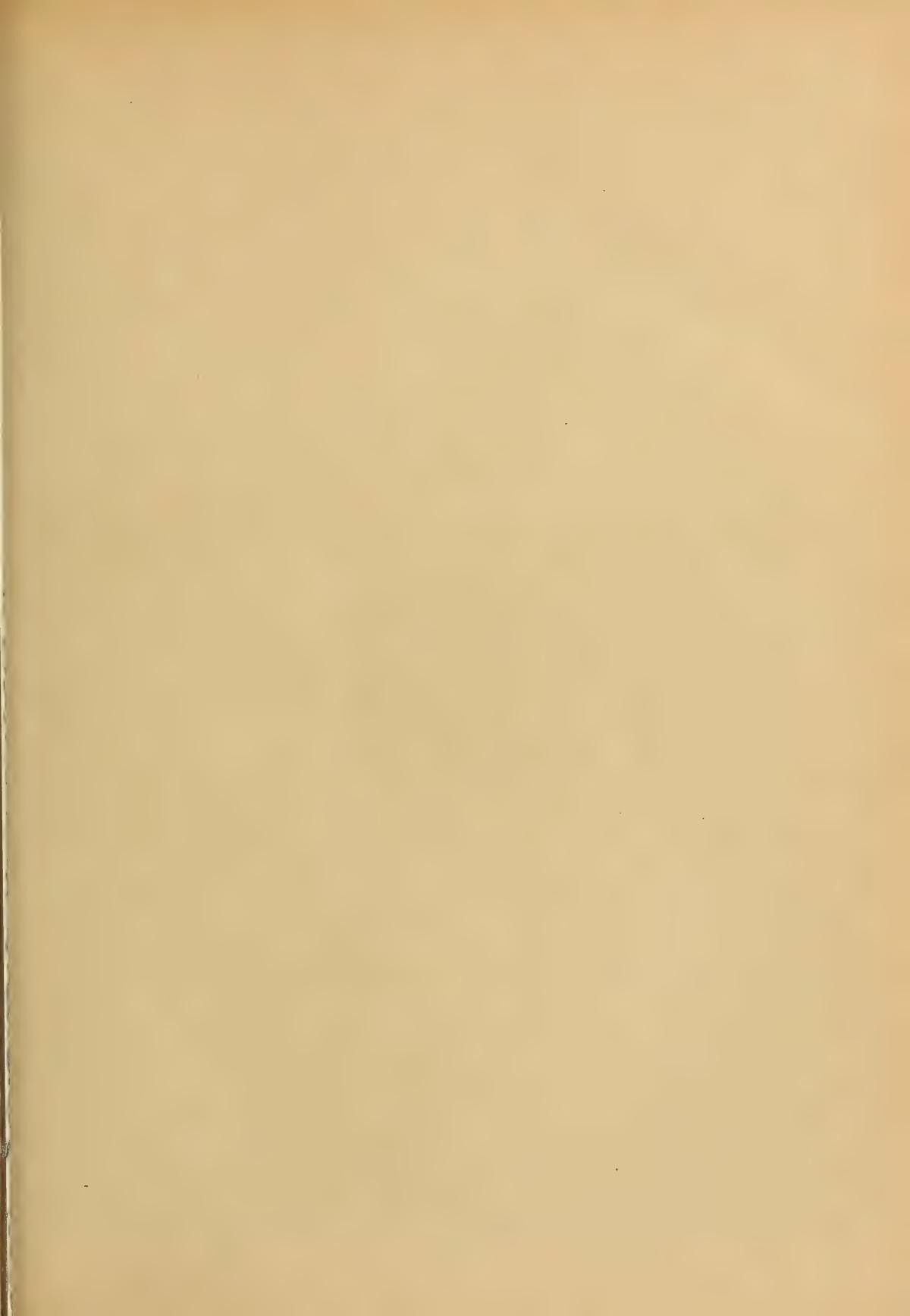
EVELYN SINGER.

THE GRACKLES.

Again they come, jet black and purple crowned,
In darting throngs to flit among the pines;
Again they fly the gilded steeple 'round,
When twilight glows and gleams in scarlet lines.

And tho' their dress is dark and sombre hued,
And even tho' their cries are out of tune,
We love them still, for in our April mood
They promise that the May will follow soon.

—JAC LOWELL.





THE CANADA JAY.

(*Perisoreus canadensis.*)

With mingled sound of horns and bells,
A far-heard clang, the wild geese fly,
Storm-sent, from Arctic moors and fells,
Like a great arrow through the sky,
Two dusky lines converged in one,
Chasing the Southward-flying sun;
While the brave snow-bird and the hardy Jay
Call to them from the pines, as if to bid them stay.

—JOHN GREENLEAF WHITTIER, "The Last Walk in Autumn."

Audacious, extremely bold, fearless, cunning, destructive, greedy, amusing, and a thief, are all terms which may be applied to the Canada Jay. It is so well known to the campers throughout its range and so various are its habits that it has been given a number of common names. It is known as Whisky Jack or Whisky John, names which sound like its Indian name *Wiss-ka-chon* or *Wis-ka-tjon* and are corruptions of it. Some of its other names are Meat Bird, Venison Hawk, Grease Bird, Moose Bird and Caribou Bird. It has no more appropriate name, however, than that of Camp Robber, a name by which it is known throughout the length and breadth of its range. That this name well fits this impudent bird is shown by the following quotation from "The American Field": "He will eat anything from soap to plug tobacco. His appetite and capacity to stow away food is beyond belief. One day we had a dozen large salmon trout hung up to dry, but being absent from camp for a few hours we returned to find four Whisky Jacks had totally annihilated our fish. They would fly off with pieces half as large as themselves and in a few minutes return for more. It is not possible they could have eaten it all. I have fed them small bits until they could hardly fly enough to get in a tree. Our pork, soap, tobacco, and other provisions were unsafe in their sight and reach. Our Indians used to say: 'Him eat moccasins, fur cap, matches, any-

tink.' I once snared two of them and put them in a cage made of birch bark and tamarack roots. Half an hour after their capture they would eat greedily from my hand. He is well named 'Whisky Jack,' as I never saw a more insane, drunken-acting creature in my life." One observer of the habits of this Jay relates the following account: While eating his lunch he laid a bag of crackers on the ground by his side. A Canada Jay, noting this action, flew down to the bag and entering the open top began to help itself. The observer quickly grasped the top of the bag and closing the opening caught the Jay. Regarding the food of this the boldest of all our birds—possibly excepting the chickadee—it may be said that they will devour or at least take and hide everything that can be eaten.

While one writer has said that the Canada Jay does not "possess a single good quality excepting industry," and even though its thieving propensities make it a consummate nuisance, it has perhaps, some redeeming features in its lack of character. Throughout its range, which extends from northern New England, northern New York, northern Michigan, and northern Minnesota, northward to the Arctic regions of America, the Canada Jay is the constant companion of the trappers, hunters and lumbermen who camp in its environment. Its antics and the varied phases of its habits serve as entertainment for them.

It commands attention for its peculiarities are well worth studying. One never knows what it will do next. As it does not seem to fear man, it easily becomes tame. Mr. Ernest E. Thompson, who has had the companionship of the Canada Jay at numberless camps in the winter woods of the Northwest and has had an excellent opportunity to study its habits, says: "I have fed it with scraps placed in such situations that its courage would be sorely tried before it could secure the dainties. Once I laid a piece of meat on the snow between myself and my companion. After one or two approaches the bird rushed in and seized the morsel. Then I laid a piece between myself and the fire some six feet away; this also was taken. Finally I stuck a piece on the end of the pot stick, which is a stout stick propped up so that it affords support to a kettle over the fire; and although by so doing the bird had to fly down within six inches of a hot clear fire, without hesitation it dashed in and secured the prize. Long experience has taught it that a camp is a sure place for a feast, and as soon as the ax is brought into play to prepare the fire-wood it is usual to hear the responsive 'tay tay' of the Wiskachon approaching from some distant part of the timber."

Though the Canada Jay does damage many pelts obtained by the trapper, by eating holes in them, and is constantly pilfering all the eatables of the camp within reach of its bill, these are, perhaps, not its worst sins. It is well known that this Jay will destroy the eggs and young of other birds. Mr. Edward A. Samuels says: "I once knew of a single pair of these birds destroying the young in four nests of the common snowbird (*Junco hyemalis*) in a single day. I found these nests in an old abandoned lumber-road on the morning of June twentieth; in the afternoon, when I returned through the same path, every nest was depopulated; and a pair of these Jays were lurking in the trees, shouting defiance at us, while surrounded by the afflicted snowbirds that were uttering their cries of complaint and sorrow."

The common call-note is not unlike that of our well-known blue jay but in addition, the Canada Jay has several

other notes which are its own. Mr. Thompson says that some of these are "the melancholy sobs and wails which, sounding so uncannily among the gloomy evergreens, have surrounded the bird with an atmosphere of mythic interest. Almost the only musical sound that I have heard it utter is a metallic 'chuck chuck,' not unlike that of the robin."

While it is loquacious at all other times this Jay, like the other members of the family, during the breeding season dislikes publicity and is a silent and retiring bird. Though it moves about upon the ground and in the trees with ease and facility, it flies in a laborious manner by almost constant flapping of the wings.

The Canada Jay nests very early in the spring. Low temperature and the presence of snow and ice does not deter it from building its nest, laying its eggs and incubating them. Mr. Thompson says there is no doubt that "one or the other parents always remain with the eggs, but still it is difficult to see how they can keep them from freezing when the surrounding air is chilled to thirty degrees below zero." Mr. Dugmore has described its nest as "composed of twigs and strips of bark, with a thick lining of moss and feathers, and it is placed in a fir tree close to the trunk, at no very great distance from the ground." The down and catkins of the cottonwood trees, and its own feathers are also used in the construction of the walls of the nest and in the lining.

Say what we will regarding the reprehensible habits of the Canada Jays, if they were removed from the vast coniferous forests of the North, they would be sorely missed by the hunters, trappers and lumbermen whose companions they are during many lonely hours in the midst of the deep snows of winter. They are not migratory birds and are supposed to store a supply of food for the barren time of winter. This would certainly seem necessary, for "four or five fluffy little Jays, that look as if they were dressed in gray fur, emerge from the eggs before the spring sunshine has unbound the icy rivers or melted the snowdrifts piled high around the evergreens."

THE COMPASS OF THE PRAIRIE.

On the prairies of the middle and western states grows a plant that has attracted much attention from both travelers and scientists, by its peculiar characteristic of showing the points of compass by its leaves. An account of its peculiarity was given to the world over sixty years ago, but it was for a long time discredited by scientists.

When its existence and the remarkable nature ascribed to it were proved to be facts, various conjectures were offered as solutions to the puzzle, all, however, proving to be erroneous until the true explanation was discovered by the celebrated botanist, Dr. Asa Gray. It lies in the singular structure of the leaves, which in most plants have a plainly indicated upper and under surface, but in the Compass-plant both sides of the leaf are alike, and both being equally sensitive to the light, in their evenly balanced struggle to gain the sunshine, they assume the position which has given to the plant its name of Compass.

The plant is a large, coarse looking perennial, growing from three to twelve feet in height, with a rough, hairy surface and a resinous juice, from whence comes another of its common names—Rosinweed.

A large tuft of what one might well describe as enormous oak leaves arise from a great, fleshy, deeply penetrating root. The leaves are deeply lobed or toothed, and in rich meadows sometimes attain a length of from one and a half to two feet or more and a foot or more in breadth. Their giant midribs, like woody sticks, being often found in the refuse of the hay in the horses' mangers.

From this tuft of great leaves, which stand nearly upright, presenting their edges (not their tips, as some suppose), directly north and south, rises the tall stalk bearing yellow flowers, small in size compared to the size of the plant and showing by their structure their relationship to the sunflower, for this plant also belongs to the great Composite family.

The botanies describe about twenty varieties of *Silphiums*, the tallest of them (*Silphium laciniatum*) being the subject of our sketch. The name *silphium* is a Latinized form of a Greek word suggestive of its resinous juice.

The poet Longfellow, in his grand poem "Evangeline," refers to this plant in the following lines:

"Look at this delicate plant that lifts its head
from the meadow,
See how the leaves all point to the north as
true as the magnet;
It is the Compass-plant that the finger of God
has suspended
Here on its fragile stalk to direct the traveler's
journey
Over the sea-like, pathless, limitless waste of
the desert."

This was soon after reports of the plant were first given to the world, and while the poet's ideas on the subject were evidently somewhat hazy; but in later editions of the poem the lines are revised to conform more closely to the real nature of the plant, thus:

"Look at this vigorous plant that lifts its head
from the meadows,
See how its leaves are turned to the north, as
true as the magnet;
This is the Compass-flower, that the finger of
God has planted
Here in the houseless wild, to direct the trav-
eler's journey."

ELMA IONA LOCKE.

THE PIE-BILLED GREBE.

(*Podilymbus podiceps*)

Few birds are more fascinating than the Grebes when they are in their natural element. On the land and in the air they are at a disadvantage, but in the water they are at home and float "with the buoyancy of down, agile as the summer breeze, easily diving to escape shot or bullet, and swimming long distances under water to elude its pursuers." The Pied-billed Grebes are practically unknown in those localities which are devoid of water courses, lakes and ponds; and they are resident throughout the year in many of those portions of their range where there is open water during the winter. Their range is long and broad though they are strictly American birds. From the Argentine Republic and Chili they may be found in suitable localities northward to Hudson Bay and the Great Slave Lake. They breed quite throughout their range, and they winter as far north as the limit of open waters. It is evident from an examination of their structure that they are neither adapted to a life on land or even in the air. Their legs are placed so far back on the body that they not only are exceedingly awkward in locomotion but also helpless, for they cannot rise in flight from the land. While they fly with considerable speed and not a little grace, the flight is accomplished only with labored working of the short wings which lack the well-developed flying quills of those birds which are adapted to a life in the air. But it is those characteristics of their anatomy which make them helpless on the land and loath to mount into the air, that make them better fitted for life in the water. "The slight movements of their feet, situated toward the rear of the body, tip the head and breast forward, and give them the remarkable ease noticeable in their diving, so much so that none of the water birds exhibits greater dexterity."

It is with great difficulty that one may study the nesting habits of these Grebes. They are always vigilant and when their suspicion is aroused, they quickly secrete themselves in the aquatic vegetation of their habitat, or diving, swim from the range of observation. When alarmed, the Grebes can dive instantly; so quickly, in fact, that they seemed to avoid the flash of the old muzzle-loading weapon of the sportsman. Many are the instances when the hunter has fired only to observe afterwards that his game has disappeared and he may have watched long for its reappearance, only to be disappointed. Neltje Blanchan has truly said of the Pied-billed Grebe: "It will swim swiftly under water to a safe distance from danger; then, by keeping only its nostrils exposed to the air, will float along just under the surface and leave its would-be assassin completely mystified as to its whereabouts—a trick the very fledglings practice." It is this habit of eluding an intruder in its domain that has given it the names Water-witch, Hell-diver, Dipper, Dipchick and Diedapper. It is also called Carolina Grebe, Dabchick and, because it is the smallest of the grebes, Little Grebe.

If we would enjoy and study the habits of these odd birds, we must remain hidden while watching them. We have called them fascinating birds, but they are far from handsome. However, their graceful movements on the water can but attract us. We quote the words of Reverend J. H. Langille, who says: "They seem most active between daylight and sunrise. Then, if one is well hid away by the still water, their active swimming and graceful diving can be seen to good advantage. Spreading considerably apart, they allow themselves plenty of room. How the ripples, started by their breasts, enlarge like arcs of circles on the glassy surface, and intersecting each



PIED-BILLED GREBE.
(*Podilymbus podiceps*).
About $\frac{2}{3}$ Life-size.

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other, move on increasingly to the shore! In quick succession they glide softly under the water and remain for some time, no doubt taking their food of small fishes and aquatic grasses. Nothing can exceed the ease and gracefulness with which they dive, so tipping under the water as barely to ruffle the mirror-like surface. Presently they reappear, one after another, shaking their heads, and looking this way and that, as if to make sure of their safety, but still swimming well out of the water. Gliding along much more rapidly than ducks, they describe their elegant curves for a few seconds, and then disappear again. What a happy family they are!"

Dr. Robert Ridgway says that environment far more than latitude is the controlling factor in the breeding habits of the Pied-billed Grebes. The tall reeds and sedges which grow in the shallower water at the margins of lakes, ponds and rivers are the favorite nesting localities of these birds. The nests are usually placed in small areas of open water where they are anchored to the adjacent flags or other marsh plants. They are "curiosities of bird architecture," and are sometimes floating masses of decaying vegetation. At other times, especially in shallow water, they may be built up from the bottom. In all cases, the materials used are reeds, rushes, grasses or other water vegetation which is mixed with mud and debris brought from the bottom of the body of the water in which the nests are located. It is fastened to neighboring aquatic plants so that it may not be moved too far by winds or currents. In his "Summer Birds of a Northern Ohio Marsh," Dr. Frank W. Langdon gives the following excellent description of the nests of this species. He says: "The little floating island of decaying vegetation held together by mud and moss, which constitutes the nest of this species, is a veritable ornithological curiosity. Imagine a 'pancake' of what appears to be mud, measuring twelve or fifteen inches in diameter, and rising two

or three inches above the water, which may be from one to two feet in depth; anchor it to the bottom with a few concealed blades of 'saw-grass,' in a little open bay, leaving its *circumference entirely free*; remove a mass of wet muck from its rounded top, and you expose seven or eight soiled brownish-white eggs, resting in a depression the bottom of which is less than an inch from the water; the whole mass is constantly damp.

"The anchoring blades of coarse saw-grass or flags, being always longer than is necessary to reach the bottom, permit of considerable lateral and vertical movement of the nest, and so effectually provide against drowning of the eggs by any ordinary rise of the water level." The eggs are incubated by the sitting bird during the night and through a portion of the day. When the bird leaves the nest she may or may not cover the eggs. This she seems to do in regions where she has reason to fear danger. Some observers believe that the Grebes brood their eggs only at night leaving them during the day to be incubated by the heat rays of the sun and the heat generated by the decaying mass of muck placed over them. Be this as it may, the mother is a watchful bird and guards her eggs and young. The little Grebes begin their swimming lessons almost as soon as they are hatched, and in a very short time they are fully as expert as their mothers. An interesting characteristic of the adults which is soon learned and practiced by the young, is that of settling backwards into the water and gradually disappearing without rippling the surface of the water. They seem to realize that their best protection lies in their power of diving. The true sportsman will not consider them game birds for they are not edible. They are usually fired upon by the hunter who enjoys testing his marksmanship by shooting at a difficult mark, and it is not to be regretted that he often fails in his design, for the Grebes do no harm.

A PARROT THAT THINKS.

It is now ten years since the parrot was purchased. He was only six months old then, a large green bird with a little yellow on his head and with red and yellow markings on his tail and wings. Gradually the yellow on the head has spread back until it now extends beyond the neck, making Ki an unusually handsome bird.

Does he know it? Listen to him say in proudest accents, "Pretty, pretty tail? Pretty, pretty wings!" following the remark with a little laugh that seems to say, "You are not so pretty." Then, too, strangers towards whom Ki is not drawn knowing his weakness, admire him and then his whole manner changes towards them. Yes, it must be admitted, his royal highness is conceited.

In the beginning Ki was not a precocious bird. For six weeks his owner sang one song to him, day after day, and not a note came from the bird's throat. Then, suddenly he proved himself not as stupid as he at first seemed, and now he has quite a list of songs at his command. "Little Annie Rooney" was picked up when that air was in vogue. "Good-bye John, don't stay long" is shrieked out when his owner, who boasts that name, leaves home to go to business. Often before the house is astir on Sunday morning, there comes floating on the air the two lines:

"I want to be somebody's darling,
I'm tired of living alone."

This is usually varied with "Hello!"

If some one dodges about his cage, looking up at him from under it, as one plays with a baby, "Peek-a-boo, I see you," is called forth. When his owner is singing with him, Ki often starts the song "Everybody Has a Trouble of his Own," but he seldom joins in with the rest of it, preferring to hear it sung by his master and showing his appreciation by little sounds that are very like chuckles of approval. Not so with

"Rock-a-bye Baby," which he shouts out in a way that would waken any child.

When he sings the long meter doxology his head and tail droop and he assumes quite a sanctimonious air. It must be confessed that no one has ever wept over his rendering of "Home Sweet Home" as did audiences when listening to Patti's singing.

Ki is a hero worshiper, and his hero is his owner, who has, in Ki's estimation, committed only one blunder, yet that a greivous one. His master married. What was in still poorer taste, he did not hesitate to show his affection for that superfluous member of the family right in front of the bird's cage. After due deliberation, Ki decided to vent his spite for this performance on the bride, who, he felt, received altogether too much attention. To this day she has only one privilege with the bird. She may feed him when no one else is present to perform that service.

To tease her, Ki adopted an ugly shriek, never before heard from his throat and never used save in her presence. Remembering that he objected to water, she sprinkled some on him, and that stopped the noise for a time. When he tried his lungs again he had the good sense to stand in the middle of his cage under the large round piece that holds the ring. Not a drop touched him. Giving way to a feeling of exasperation she threw the water from the side, and then as she wiped it from the wall, she was far from calmed by listening to the parrot's "Ha, ha, ha! Awful nice and good. Ki want a nice drink of water."

She has conquered him, however, for since she boxed his ears through the bars of the cage with a long handled spoon, the very sight of the spoon quiets him. As she holds it up before him he softly remarks, "Ki will have some nice mashed potatoes," and then subsides.

The expression "boxed his ears," it must be confessed is rather figurative. A parrot has only little holes through which to admit sound. She lightly struck the places where the ears ought to be.

Speaking of Ki's hatred for water, he not only dislikes a bath, but knows the meaning of the word. When his hero says, "Come out of your cage, Ki, and have a bath," the bird will not move, but let him offer to take the bird out without mentioning a bath, and out he comes; for there is nothing he loves better than to perch on his hero's shoulder and play with him. Woe betide the bride if she approaches at these blissful moments!

This intense jealousy is characteristic of the parrot family. A gentleman who has two macaws, related this circumstance. He had owned a large red, white and yellow macaw several years. The bird was very fierce towards every one except his wife, who could do anything with him. He would swing on her finger, placed within his

beak, without scratching her and play by the hour without doing her the slightest harm, although his power to injure her was shown by his twice cutting a plain gold ring by slipping his beak between it and her finger. The gentleman bought another macaw with markings of blue, white and yellow, so gentle that anyone could pet it. When this new pet was brought home, his wife fondled it in the presence of the old favorite. At once the red macaw showed temper, and never since has his former friend been allowed to play with him.

Ki is much kinder to men and children than to women. He spent two weeks last summer in another home and grew quite attached to the man of the house, who could take him out of his cage, and with whom he would sing. This fondness seems to continue as Ki still shows pleasure at meeting him. But, after all, he has but one true love. Never, even under the most trying experiences, even when his pin-feathers are rubbed the wrong way, will he show anger towards his hero.

JENNIE CAMPBELL DOUGLASS.

HEPATICAS.

Brave little spring-flower, fragile and tender;
Long ere the leaves on the trees are agreen,
Thrusting your pedicels downy and tender,
Up toward the sunshine the dead leaves between.

First among wood-flowers, boldly defying,
Keen winds of April and nights that are chill;
Smiling and nodding while others are lying
Under warm coverlets, dreamless and still.

Roses and lilies will bloom without number,
Queens of the garden, imperial flowers;
You, overcoming the lethe of slumber,
Lift up your face to the first vernal showers.

Hail then, Hepaticas! first gift of Flora,
Frail little blossom that droops in the hand;
Many will flower in defiance to-morrow,
You for to-day without rivalry stand.

—CHARLES F. FUDGE.

THE TRAILING ARBUTUS, DELIGHT OF THE POETS.

Well may this beautiful flower of the early springtime be called a favorite of the poets, for many are the lines written in its praise. Longfellow's bit in "The Courtship of Miles Standish" is very familiar. The hero sauntered along:

"Gathering still, as he went, the Mayflowers blooming around him,
Fragrant, filling the air with a strange and wonderful sweetness."

Whittier has two poems mainly devoted to this flower, which was the first blossom seen by the Pilgrims after passing the winter in their new home, and which was named after their vessel. This is mentioned in "The Mayflowers."

"God be praised!" the Pilgrim said,
Who saw the blossoms peer
Above the brown leaves, dry and dead,
'Behold our Mayflower here!'"

In "The Trailing Arbutus," Whittier writes:

"And, guided by its sweet
Perfume, I found, within a narrow dell,
The trailing spring flower tinted like a shell
Amid dry leaves and mosses at my feet."

And, in "The Friend's Burial," our Quaker poet says:

"The ungathered Mayflowers wear
The tints of ocean shells."

Again, in "April," this lover of the Mayflower gives it another name:

"Round the boles of the pine-wood the ground-laurel creeps."

Bryant also uses this name in the poem, "The Twenty-seventh of March":

"Within the woods
Tufts of ground-laurel, creeping underneath
The leaves of the last summer, send their
sweets
Up to the chilly air."

Emily Dickinson has a poem entitled "May Flower," of which the first stanza is:

"Pink, small, and punctual,
Aromatic, low,
Covert in April,
Candid in May."

Sarah H. Whitman speaks of the blossom in these words:

"The shy little Mayflower weaves her nest,
But the south wind sighs o'er the fragrant loam,
And betrays the path to the woodland home."

Emily Greene Wetherbee writes of finding it in childhood:

"When, in the shaded forest,
Or in secluded dell,
We sought the fragrant Mayflower,
The blossom loved so well.

"When from the green leaves peeping,
We saw its pink and white,
What childish glee and triumph,
What shouts of pure delight!"

And doubtless many more verses might be added to this list, but perhaps enough have been quoted to make the Arbutus still more dear in the hearts of its manifold admirers.

EDNA P. TODD.



SMITH'S LONGSPUR,
(*Calcarius nicticus*)

THE SMITH'S LONGSPUR.

(*Calcarius pictus.*)

Smith's Longspur, or the Painted Longspur, as it is frequently called, has an interesting range which is long and narrow. It breeds in the western interior of the far north from the Arctic coast and upper Yukon Valley, southward for an undetermined distance. In the winter it migrates southward through the western portion of the Mississippi Valley, where it finds feeding grounds on the Great Plains and prairies as far south as Texas. Its winter visitations also extend more or less frequently east of the Mississippi River, where it may be found, at times, quite abundant on the prairies of southern Wisconsin and northern Illinois. Unlike its relative, the Lapland longspur, which is found throughout the northern portion of the northern hemisphere, this species is strictly a bird of America. The habits of the two species are very similar, and while the adult colors of the males of the two species are not alike, those of the females resemble each other. They are easily distinguished, however, by the color of the legs, those of the Lapland longspurs, being black or dusky, while those of Smith's are yellow.

During their migrations and in the winter, the Smith's Longspurs are generally found in large flocks. Flocks of this and the Lapland species often mingle when flying, but it would seem that they seldom if ever alight together. Mr. Frank M. Woodruff says that his observations of the two species would indicate that while the feeding habits of the two species are much alike, Smith's Longspur prefers the higher and drier portions of the prairie, while the Lapland selects the lower and wetter areas. In the eastern portion of its winter range, Smith's Longspur is often very irregular in its appearance. In the north-eastern portion of Illinois Mr. Wood-

ruff says that its visits are at long intervals; at times appearing in countless numbers and at other times only in straggling pairs.

Mr. E. W. Nelson, who also studied the habits of Smith's Longspurs during their winter visits to northern Illinois, says: "When flushed they invariably uttered a sharp clicking note, rapidly repeated several times. When driven from their feeding place by my approach, they would rise, in a loose flock, and after wheeling about a few times start off in a direct line, gradually rising higher until they disappeared. After a short time, their peculiar note would be heard, and darting down from a considerable height they would alight near the place from which they were driven." The Longspurs feed upon the ground and often in such large numbers that a large field seems alive with them. They run easily and quickly and seldom arise unless frightened by the too near approach of an intruder. When they do arise from the ground, they utter several sharp clicking notes and fly for a short distance in an easy undulating manner when they drop suddenly and perpendicularly to the ground. At other times, these birds will spend some time in the air, flying in circles and uttering an almost continuous chirping call. During their migration flights the flocks often fly at great heights, so high that they are often scarcely perceptible, yet the constantly uttered notes may be readily recognized by one who is familiar with them.

The charming song of the male Longspurs is heard only during the mating season and is unfortunately heard only by those who frequent the more northern portion of the range. Like the skylarks, they sing while they soar, flying upward from a slight elevation of ground; and according to Mr. Thompson, who stud-

ied this species in Manitoba, they will sing a "sweet continuous song while perching on a clod."

The nests of these Longspurs are usually placed in tufts of grass or other herbage, or they may be built in a slight excavation in the ground, possibly scratched out by the birds, where it is protected by grass or other plants. The nests vary greatly both in size and the

material used in their construction. They are usually built of grass and moss interwoven in a rather thick wall and may or may not be lined with a thick layer of feathers, hair, soft moss or fine grasses. Both sexes are very solicitous for the safety of their eggs and young, and on the approach of an intruder will use every means within their power to attract attention from the nest.

MR. STICKELBACK.

When the pussy-willows popped out of their brown cradles, Mr. Stickleback decided to built his nest. Now, Mr. Stickleback is not a bird, but a funny little fish, about two inches long, who seems to wear his bones on the outside, for he fairly bristles with spikes or spines. This makes him rather a bad mouthful for the enemy who would try to swallow him. But he is a good father. No mother could work harder for her children than he does for his baby Sticklebacks.

Though he looks fierce, Mr. Stickleback is usually a peaceable fellow. Only when the red and blue markings begin to come in his coat does he experience a change of heart. Then he is ready to fight anything. Then, also, he turns his attention to the serious things of life, and that was why on this bright spring morning he was thinking of nest building. "I haven't an hour to lose," he said. "I'm getting red and blue so fast." But he didn't say it out aloud. There were too many Sticklebacks around, and some of them were putting on their shining coats, too. "They'll be cross as sticks and sure to want my place just as soon as I choose it. I'll get ahead of them, though." And thinking this, he swam quietly off until he came to a spot which seemed to suit him exactly. It was on the edge of the pond and right in the soft grasses and roots. When he had swept the pond bottom with his tail and made a little hollow, he nibbled off some water

weeds and fastened them together with threads of tongue root. Before he finished he had to stop to drive away some young tadpoles, who persisted in getting in his way. Then he went to work again, but soon a Stickleback came swimming along.

These two had been good friends in the days when their coats were dull, but now their feeling was of another character.

"Don't you come too near my nest," called the little builder, bristling fiercely.

"I will if I want to," answered the visitor, bristling in his turn.

Of course, after that there was nothing to do but fight. So they swam at each other and flopped and jabbed and lashed, and flopped and jabbed and lashed some more. After that, both were so sore and tired that the unwelcome caller was glad to swim away, and the small builder had to take quite a rest before he went to work again.

At last his nest was finished. It was open at both ends and looked like a tiny muff.

"Not at all bad," he said, examining it critically from all sides. "Now I must have some eggs."

Soon he spied a dull colored Stickleback.

"Good morning," he said, in his politest tones. "Will you not rest awhile in my nest and leave a few eggs there?"

"Why, certainly," replied the lady Stickleback, swimming into the nest with her daintiest air. She made a funny

sight with her head and tail sticking out, but she declared she found the nest very comfortable.

Mr. Stickleback, looking his fiercest, kept guard outside and when she was gone he took a peep at the eggs.

They were sticky, like all fish eggs, and fixed to the bottom of the nest, but he seemed well pleased, and, covering them carefully, set himself to watch again. He invited three other ladies to lay for him, and by that time he had eggs enough. He was tired, too, for he had fought every brightly colored Stickleback that had gone by.

"It is scandalous," said some of the dull colored ones in his hearing. "I wonder our children have any training at all when their fathers fight so."

But Mr. Stickleback said to himself: "What do they know about it. They have never been red or blue in their lives, and when a fellow gets red and blue he has to fight."

And so he continued fighting anything or anybody that came too near, no matter what its size. All the while he kept careful watch over his nest and one day

his little fatherly heart was made happy by the hatching of the tiny eggs.

But work was pressing after this. To keep a hundred babies from being carried out of the nest by the stream was no small matter. Besides, as must happen in such a large family, some were disobedient and glad of an excuse to flit away on their tiny fins, and their poor tired father was kept so busy darting after them and bringing them back in his mouth, that his fins just ached.

Fortunately, after about a week, they were able to follow him to the feeding grounds, where he scooped out a little basin in the sand, and there they played, safe from harm, while he watched near. Indeed, he guarded them and fought for them until they were entirely able to take care of themselves. By that time he had lost all his bright colors, and when he went back to the pool where the other Sticklebacks were, and the mothers told him how he should have trained the children, he answered not a word.

He was no longer red and blue, and he didn't care to fight.

LOUISE JAMISON.

THE SPRING.

One glowing morn I met the Spring;
A tender, winsome, flower-eyed thing;
The sunbeams dancing in her hair;
Her gown of dewy blossoms fair.

She lead me to the bosky dell
Where drooping, blooms the asphodel;
We dreamed beside the streamlet's brink,
Where woodland songsters stop to drink.

She wove a wreath of blossoms white
And twined them in her tresses bright;
So full was she of April wiles,
Of pearly tears and merry smiles.

A yearning song of love she sang,
While in my heart the echoes rang.
Ah! winsome, bonnie, star-eyed thing!
Enchanting nymph! Beloved Spring!

—JEAN M. HUTCHINSON.

THE PURPLE GALLINULE.

(*Ionornis martinica.*)

The beautiful plumaged Purple Gallinule is a native of temperate and tropical America. It is a common bird in the southeastern portion of the United States where it frequents the sedge-bordered lakes and water courses. It is a near relative of the rails and like them, is a shy and timid bird. While it is an expert swimmer, it is much more inclined to wade. While a pair of Gallinules seem to show great affection for each other, they do not care for the society of their fellows and there are constant quarrels among them. Neither will they permit the presence of other birds, driving away some that are much larger and stronger than themselves. The Purple Gallinule feeds largely upon vegetable food, but it will also eat snails, worms and insects. "It is a vigorous and active bird, bites hard when irritated, runs with agility, and has the faculty of holding on objects very firmly with its toes, which are extremely long, and spread to a great extent." When wading or when walking on the dry ground, its steps or rather strides, with grace and dignity. As it lifts its feet when in locomotion, it curls its toes and tips its tail with every step, as does its cousin, the Florida Gallinule, with which it is often found in the same swamp.

As the Purple Gallinules are related to the coots they are sometimes called Blue Coots. Blue Mud-hen is also an appropriate name, for in some of their habits and in their voices they resemble the domestic chickens. They cackle like chickens and also utter the soft notes of contentment. They are also grain eating birds, being fond of corn, rice, and other grains. The tender shoots of young corn they consider a great delicacy. They will gather food with their claws and carry it to their beaks. The Gallinules run easily over the lily pads, or masses of aquatic vegetation resting

on the surface of the water, their weight being partly carried by the fluttering wings. While they walk with deliberation and elegance, their flight is heavy and labored. Mr. Brewer says of this Gallinule: "Ever on the lookout for any danger that may menace it at the least noise it takes to flight and hides among the rushes. It is only when its place of retreat is inaccessible that flight is attempted, its movements in the air being heavy and not well sustained." In spite of its weak power of flight, this species migrates. It winters from the southern border of the United States southward throughout the West Indies, Mexico, Central America and in South America to Brazil. It breeds as far north as southern Illinois and South Carolina and casually struggles still farther northward to Maine, New York and Wisconsin. Mr. W. E. D. Scott, writing of the "Birds of the Gulf Coast of Florida," says of the Purple Gallinule: "This is one of the species that in its migrations is frequently blown out to sea in the Gulf and I have had several individuals brought to me by men from the sponging boats that fish from six to fifteen miles off the mouth of the Anclote River. These birds came on board during hard storms, generally in March, and being very much exhausted were easily captured."

The nest of the Purple Gallinule consists of a platform of reed stalks directly over the water, or of grasses, bent and woven together over a grassy marsh. Upon this platform a rude cradle is constructed with grasses. Occasionally the nest "may be moored to the stems of the rushes, or to a bush, where the incoming tide raises it, but cannot loosen its anchors." Mr. Oliver Davie says that besides its true nest the Purple Gallinule will often make as many as five or six sham nests.



PURPLE GALLINULE.
(*Icthyophaga martinica*).
About $\frac{2}{3}$ Life-size.

AN AUNT JANE STORY.

SOME JAPANESE PETS.

They came through the mail, a gift from the government. The children gathered in wonder about the table as the mysterious package was opened, for Aunt Jane had told them that she was expecting the arrival of some "Japanese Pets."

"Pshaw! is *that* all?" exclaimed John, as some slips of card-board, covered with tiny, bead-like eggs, were unfolded before his eyes.

"Oh, auntie," said Bird, in a disappointed tone, "I thought your pets would be alive!"

"Well, so they are—or will be. If you have patience, you will see something very wonderful one of these days. Howard, get me a tin box and make a few small holes in the lid; we must keep these little treasures in a cool cellar, safe from mice, for a short time, as I do not wish them to hatch until the leaves on the osage hedges get a little larger, or the wee fellows will die for lack of food."

The few days seemed a whole year to the anxious children, but, finally, Aunt Jane told them that they might go out to the osage hedge and gather some of the small, bright-green leaves. Unknown to them, she had placed the cards of eggs on a tray in a warm room a few days before, and now had something to show them.

What a merry race there was to the hedges, and how fast the scissors clipped the tender branches; then what winged feet went flying back, and up the stairs to the little room where Aunt Jane had established her cocoonery!

"My basket is the fullest; let me in first," cried Howard, knocking on the door.

"No, let me in," screamed John, "for my leaves are the largest."

But Birdie, with all a girl's impetuosity, had turned the door-knob just as

Aunt Jane unlocked the door from the inside, so she went tumbling in head first. She soon regained her feet, and cried, breathlessly, "Where are they?"

"Right here on these trays on the table," Aunt Jane replied.

"Dear me; those little black specks!" cried Howard. "I'll just run down for grandmas glasses, or Bird will never see them."

"You keep still; I do see them," she responded, "just thousands of them. Oh, Auntie, we never saw silk-worms before; do tell us something about them."

"Certainly, my dear; I would like to have you become so interested in my pets that you will watch the whole process of their development. You remember the eggs were nearly the size of pin-heads and were not attached to each other, although they lay so close together gummed fast to the card-boards. Small as the worms now are, they will soon be nearly three inches long. They will be yellowish-gray and creamy-white in color, and will change their skins three or four times. The skins will begin to break in front and will be pushed backward by means of the writhing motion of the worms. While the skins are new the worms grow with the greatest rapidity, but during the various molts many of them may die."

"How will they look when full grown?" asked Alice.

"In a few weeks they will be grown and will look—well—a little like a sheep. They have long, white, sheepy-looking faces."

"Oh, Aunt Jane, you don't mean it?" cried John.

"Wait and see," she replied. "But the most remarkable thing about the silk worm is the fact that it has two glands, which extend along the body, and end in

two spinnerets in the mouth, from which the silk issues as if one thread, but it is easily separated into two threads. A single fiber is often eleven hundred feet in length."

"What a curious little machine he is," said John; "but I should like to ask how people ever come to think of raising silk-worms?"

"The word silk, you must know, is from *sericum*, so called from the country of the 'Seres' or China. More than two thousand years before Christ, in the reign of Hoang-Ti the Queen, Si-Ling-Chi, first discovered and utilized the product of the silk-worm. She prosecuted her researches until she learned how to breed and rear the worms; so the world is indebted to a woman for one of its best industries. But although Si-Ling-Chi taught the women the whole process, even to the reeling of the silk, yet China kept the secret from other nations for two thousand years."

"How pleased the Chinese must have been with so wise a Queen!"

"Indeed they were pleased, as is shown by the fact that she has ever since been worshipped as the 'goddess of silk-worms.'"

"Did a woman tell the secret at last?" asked Howard, slyly.

"No. Men 'let the cat out of the bag.' Some monks took hollow bamboo staffs, or canes, and filled them with silk-worm eggs, and thus, unsuspected, they succeeded in carrying the precious eggs out of the country, and, in this way, a beginning in silk-worm culture was made in Europe, from whence it slowly spread over various countries."

"How long have silk-worms been raised in America?" Alice inquired.

"Since the early days of colonial history," Aunt Jane replied. "The Southern States are well adapted to the silk industry. As early as 1759 the export of raw silk from Georgia exceeded ten thousand pounds per year. Our government is so anxious to make this a productive resource in the United States that of late years Congress has appropriated many thousands of dollars for the encouragement of the silk industry."

"I should like to know," said Howard, "how much trouble silk-worm raising will be before I go into the business.

How hard would one have to work, and how about the profits?"

"Let me see," said Aunt Jane, meditatively. "The worms from one ounce of eggs will produce cocoons that will weight, after they are choked, twenty-three to thirty-one pounds, which will sell at eighty cents to one dollar a pound. The worms require close attention for six or eight weeks, must be fed several times a day, and will consume one thousand six hundred pounds of food."

"Hear, hear, children, why don't you listen? Aunt Jane says these worms will eat one thousand six hundred pounds of leaves! Now, look out—that means work for us, and when she sells them, she will not, very likely, get over twenty-five dollars for all her trouble, to say nothing of ours! We can't have the face to even ask her to treat on such profits! As sure as my name is Howard, I'm not going to join the 'Cocoon Firm.'"

"But we will have fun gathering the leaves, besides getting acquainted with the worms," Edith insisted. "I'll be sure to help you, Auntie, even if Howard will not. Do tell us more about the silk-worm."

"Did I tell you," she responded, "that I heard a slight clicking sound in the turnip-seed-like eggs, just before the eggs hatched?"

"No; but I suppose the little fellows were trying to get out. How long after they hatch before they begin to spin?"

"From thirty to forty days."

"Well, good-bye," said Howard. "I'll come back here in a month to see them spin."

"The naughty boy," exclaimed Alice. "He wants to get out of the task of gathering leaves for the worms. I mean to write the history of 'Our Japanese Pets,' and when I read it he shall not hear a word of it."

"Good," cried the sympathetic children: "Howard shan't know anything we learn about the silk-worms. We'll go up in the barn loft when Alice reads her history."

"That won't do," John objected. "Howard will hide in the hay, or sit on the ladder and make fun; we must come to the cocoonery and lock the door."

This arrangement was decided upon, and so a few weeks later, Aunt Jane and

all the children except Howard—who all unknown to them was perched in a tree top near the window, where he could hear every word they said—were seated in the cocoonery to hear what Alice had written about the pets. She read:

"We learned many things about the little creatures from Aunt Jane's talks from books, and from our own observations. We found that our foreign friends belonged to the family of the *Bombycidae* or spinners. There are several species, but none so profitable as the mulberry species to which ours belongs. By domestication this species has changed color and lost all desire to escape.

"The silk-worm exists in four states, as egg, larva, chrysalis and moth. The larva goes through several molts, during which it is sick, and some of the more delicate ones are apt to die. We found the worms had six true legs and eight 'prolegs,' as they are called, and a little horn-like process near the end of the body. As the worms increased in size they grew more and more interesting. We quite enjoyed seeing them devour the fresh leaves, but Auntie got very tired changing them from tray to tray and keeping their quarters clean.

"When they got to be great fat fellows we fancied we could see the sheep-like look Aunt Jane spoke about. We found, to our astonishment, that some of them were so intelligent as to seem to know Aunt Jane's voice. Of this we all feel quite sure. We decided to name the smartest ones and to watch them especially. They were strangers in a strange land, so we concluded we must give them Japanese names and try to make them feel at home.

"One little beauty we named 'O Kin,' which means 'Miss Gold,' she was quite yellowish. Another one we called 'O Clo,' or 'Miss Butterfly.' A large one was 'Kewi,' and the finest one of all in the lot we named 'Hokusai.' When we went into the cocoonery we would say to them, 'O-hang-O,' or 'good morning.'

"They were all very good about staying where they were put except 'Butterfly' and 'Hokusai.' We feared Hokusai would come to grief. He kept tumbling off his tray and seemed so infatuated with a bright piece of carpet in one corner of the room, that he covered it with

a lovely white veil and then began to spin his cocoon. But when he had only fairly commenced it we found him one morning with a look of mortal agony on his face, and a sting in his great fat side.

"We laid him on the window sill and in a few minutes he was dead—dead before we could catch the assassin spider, who was drawing himself to the ceiling as fast as ever he could, on a long, fine, white rope of his own spinning. We only wished the rope was strong enough to hang him with."

"Didn't we, though?" interrupted John, with emphasis.

"Aunt Jane seemed to feel so much the death of poor 'Hokusai' that we children determined to give him the honor of a funeral. We were at a loss to know how to conduct the services, because 'Hokusai' was a foreigner. We had already buried many pets, but they were all American born. We thought 'Hokusai' should have a Japanese interment. But as none of us were familiar with the funeral customs of the Japanese, we decided to sing a translation of the only Japanese song we knew. Edith said it was mournful enough for the funeral obsequies of a worm. We waited until Howard had gone to the post-office, and then we buried 'Hokusai,' singing:

'Should the mountain cherry cease
In the spring-time of the year
With its mass of new-born bloom,
Mortal man to cheer. Also
Would the heart of spring be gone
And its brightness fade away?'

"John said he could not see the connection between the cherry-tree ceasing to bloom and the death of 'Hokusai,' but Edith told him the connection was close, because both were Japanese, and that the beauty of the spring was now gone to 'Hokusai,' as he had ceased to live. Besides, that it was most appropriate that the little stranger from the 'Land of the Sun's Source' should have a real Japanese song sung over his grave. As John was not able to refute such strong arguments, he made no farther criticisms, but was good enough to spoil his knife cutting the name 'Hokusai' upon a piece of soapstone, which we placed as a tombstone at the little grave under the cherry tree."

"I think," interrupted John, "that I will bring in a bill against the 'cocoon firm' for the cost of that knife."

"John," said Alice, severely, "it is impolite to interrupt a person who is reading, especially"—and she smiled as she said it—"when a person is reading matter of the greatest importance, by making unimportant remarks," and she continued to read:

"The most dreadful thing about the business of silk culture is that when the poor little creatures voluntarily build themselves a prison-house which is for our profit, we are obliged to stifle them to death in it, because if we do not, the little prisoners who disappear from our sight as worms will reappear as moths, and, in making their way out of the prison-house, will break some of the threads of the cocoon, which will render it unfit for reeling, and therefore unmarketable.

"The moth does not cut the threads, but he finds the thinnest place in the cocoon, and moistens it with an alkaline secretion with which he is furnished, and which makes the cocoon moist enough for him to push aside the threads and come out of the opening; but, in making the passage, he is sure to break some threads. Therefore it is necessary that all cocoons intended for market must be heated sufficiently to kill the moths within them."

"To this 'slaughter of the innocents,' we children strongly objected, so to satisfy us Aunt Jane said we might save the cocoons made by 'O Kin,' 'Kewi' and 'O Clo,' together with several dozen of the others, in order that we might see the whole process, and have some eggs of our own raising for another start, 'though it is best,' she said, 'not to depend upon the eggs which are from worms raised by amateurs in the business.'

"The cocoonery was lovely while the worms were spinning. We made little cornucopias of pink, yellow and white paper for the lazy worms to use who would not mount the branches we had arranged for them, nor the broom-corn arches. The noise of the spinning was quite distinct. So many little heads went

back and forth, back and forth, in a side-wise motion, making a sort of figure 8 loop.

"We were surprised to find that the cocoons when finished were smaller than the worms, so we knew they must have bent themselves about in order to be enclosed. The cocoons were just the shape of peanuts, only larger, and were either white or yellow. We were sorry there were no green ones, as sometimes happens. The worms were busy for nearly a week before all were done spinning. We put the cocoons of 'Kewi,' 'O Clo' and 'O Kin' and the others, the moths of which were intended to be allowed to emerge from the cocoons, in a darkened room. In about two weeks the moths came out with damp, crimped wings. They were cream-colored, with brownish markings and curious little antennæ.

"Poor 'Kewi' proved to be a cripple without wings, and so feeble that we had to help him out of his cocoon. We opened his prison-house and found in one end of it his last larval skin, a dry, wrinkled wad. Edith said it was his old dress hung away in his closet, because it had gone out of fashion. As 'Kewi' was a cripple, we could not determine by his greater activity whether we had done right or not by giving him a masculine name, but Miss Butterfly and Miss Gold proved to be correctly named. In a short time the female moths had laid three or four hundred eggs apiece, and then Aunt Jane carried all the moths, both the living and the dead, downstairs and gave them to the turkeys—except 'O Clo,' who had gotten out of the room and was found sliding gracefully down the stair railing. We rescued her, but, as she seemed to have no jaws for eating, she soon died a natural death, and we buried her beside the lamented 'Hokusai,' and this concludes the history of 'Our Japanese Pets.'"

"You made cornucopias for, and treated the lazy worms enough sight better than you did the lazy boy," cried Howard from his ambush in the tree-top, as he bent down the limb and sprang through the open window into the midst of "The Cocoon Firm."

There was a shriek of surprise.

BELLE PAXSON DRURY.



LONG-BILLED MARSH WREN.
(*Cistothorus palustris*).
Nearly Life-size.

THE LONG-BILLED MARSH WREN.

(*Cistothorus palustris*.)

From the reeds would spring,
Whirring, the meadow-wren, and start and stare
And sputter, lighting from their bending tops,
As if indignant and no less amazed
That I should thus, with causeless and ill-timed
Approach, upon the privacy intrude
And urgent duties of her precious life.

—George Hill, "Ramblings in Autumn."

One of the most noticeable and characteristic birds of swampy or marshy places is the Long-billed Marsh Wren. It is seen at its best if the reed-bordered shore be approached in a boat from the water side. As we push our boat among the reeds the better to study this little feathered acrobat, we are greeted by his harsh alarm notes as he scolds us for intruding upon his private domain. And now, as we push farther in, we hear all about us the harsh notes of alarm, with now and then a few clear, cheerful little notes from the wrens at a distance who have not yet been disturbed. Let us remain perfectly quiet for a few minutes and see what will happen. The harsh notes gradually cease as the little fellows become reassured and in a short time the cheerful note alone is heard. And now, his curiosity getting the better of his fears, one of the Wrens approaches and alights upon a reed not far away and proceeds to inspect us. He is never still for a single moment, but hops and flits about as though on most urgent business. One very striking position is with the tail thrown up until it almost touches the back, at the same time swaying about in a most ludicrous fashion. Others now approach and may be seen in many different attitudes, some scrambling about near their nests while others seem to be running races up and down the stems of the reeds. These Wrens seem very excitable and are seldom observed perching quietly upon a reed.

The nest of the Long-billed Marsh Wren is quite a model of bird architecture. It is built of rather coarse grasses which are woven into the form of a ball and attached by blades of long grass to several tough grasses or reeds. If built among the reeds one or more reed stems may pass directly through the nest for greater support. A little round hole forms the entrance and inside it is lined with fine grasses with an occasional feather or horse hair. Some of the nests are models of neatness, while others remind us of an untidy person, with the ends of grasses hanging from them and with the grasses loosely woven together.

A notable feature which impresses an observer, as he looks over a tract of reed bordered shore, is the large number of nests which may be observed in a small area. These are probably not all new nests, as those of the previous year are generally so strongly built that many of them remain practically intact for more than a year. It seems to be true, however, that these Wrens build more nests than they use. One peculiarity in the construction of the nest is the projection of the upper part of the entrance hole, presumably to aid in keeping out the rain.

Egg laying begins in May. The eggs, generally six in number, are wonderfully colored. Some are deep chocolate colored, others are lighter with a dark zone at the larger end, while still others have a whitish ground over which are scattered patches of brown. Sometimes

the entire surface is thickly covered with very small dots, so fine as scarcely to be seen. The eggs are quite small, measuring from three-fifths to three-quarters of an inch in length. The young leave the nest about the middle of June. A second brood is frequently raised.

The Long-billed Marsh Wren is a summer resident in the northern part of the United States arriving early in April and leaving for the south again in September. It breeds throughout its range, a large number remaining in the regions of their winter residence while the larger body move northward in migration. The building site, as well as the feeding ground, is invariably a marshy or swampy region where reeds, cat-tails and coarse grasses are abundant. In such a locality they will gather in large numbers to build their nests. The food of this little Wren consists principally of insects and insect larvae. A favorite article of diet is a small green grasshopper that lives among the reeds.

The song of this Marsh Wren is peculiar, resembling, as Wilson says, "a low crackling sound, somewhat similar to that produced by air-bubbles forcing their way through mud or boggy ground when trod upon." This changes to a harsh scripping note when the bird is disturbed. The most remarkable fact about this song is that such a volume of sound could proceed from such a diminutive bird.

The fact that so many nests are built in the same season is attributed to the bird's instinct for protection. It is very noticeable when one is searching for the eggs of this species, that the male tries to decoy the intruder to an empty nest, thus diverting, many times, the attention of the collector from the nest occupied by the female. This would seem to be bordering on the line of bird reason, because the bird must realize that if it succeeds in turning attention from the real nest, its home is safe from depredation. However this may be, the fact is very interesting and very instructive.

The Long-billed Marsh Wren is widely distributed, ranging throughout the eastern United States, north to Massachusetts, Ontario and southern Manitoba and wintering in the Gulf States and eastern Mexico. It has been known to winter locally as far north as southern New England.

A related bird, the short-billed marsh wren, is frequently found associated with the Long-billed Marsh Wren, although it is much shier and difficult to approach, seeming to fear man more than its longer-billed relative. The short-billed species is seldom observed in the vicinity of salt water, seeming to prefer the meadows and marshes near fresh water. The distribution of this species does not differ materially from that of the Long-billed Marsh Wren.

COLLINS THURBER.

THE WOODPECKER FAMILY.

The Woodpecker family is one of the handsomest as well as one of the most useful of bird families. These birds eat many grubs and worms which would otherwise harm the trees. They are friendly with other birds and with man. The Hairy Woodpecker, it is true, is fond of the deep woods, but the other members of the family like to make their

homes in parks or orchards, or in the trees along the village street.

All the Woodpeckers have some red feathers about the head; that is, all the male birds, for Mrs. Woodpecker does not wear such fine clothes as does Mr. Woodpecker. Their coats are black and white, except the Flickers, whose coats are golden-brown and black. All have

long and strong bills for making holes in the bark. Let me tell you something about the different members of this family.

The Red-headed Woodpeckers are not quite so large as the robin. They are black and white above, and white beneath. Not only their heads but their necks and throats are red. They cannot sing us a sweet song like the robin, but they have a noisy cry which sounds like the call of the tree toad, only it is much louder.

They select a partly decayed tree in which to make their nests. You know the digging is easier in a decayed tree. Both papa and mamma Woodpecker work at the nest. One rests while the other works. They hollow out a tunnel, then, on the chips and sawdust in the bottom of this tunnel Mrs. Woodpecker lays her white eggs.

The Red-headed Woodpecker stores away nuts in the knot-holes of trees or in cracks in the fence-rails; in fact, in any place where it can find a good store-house. As it sometimes stays all through the cold winter, I presume it thinks that it will need this food.

The Hairy Woodpecker is about the size of a robin. Instead of having a red breast, it has only a red band on the neck. It is fond of the forests. In the fall it begins to make its winter home. First, it makes a round hole under the branch of a tree. Then it digs a horizontal tunnel to the very center of the tree, and then, turning downward, it hollows out a little room where neither snow nor wind can reach him. Here it spends the winter as warm and cosy as can be. But I am sorry to say that this Woodpecker is selfish, for he lets Mrs. Woodpecker take any hole that she can find. But when summer comes he is as attentive and kind as a bird can be.

The Hairy Woodpecker, like the Red-headed, cannot sing, but it likes to tap or drum on the trees.

The Yellow-bellied Woodpecker, or Sapsucker, is smaller than either the Red-headed, or Hairy. It has a red crown and a red throat. It is black and yellowish-white above and pale yellow beneath. There is a black spot on the breast in the shape of a crescent or half moon.

This is one of the prettiest of the Woodpecker family, but it is not a useful bird, for it drinks the sap of the trees. It selects a young and strong tree, and after making a hole in the bark, will drink its sap until it has injured or killed the tree. Sometimes it strips the outer bark from a tree and pecks at the soft wood underneath, so you see that it does a great deal of harm.

These birds dig far into the trees when making their nests, often as deep as eighteen or twenty inches.

The Downy Woodpecker is the smallest member of this family. It is about the size of an English sparrow. It is black and white above and white underneath, and has a red spot on its head. It is sometimes called a sapsucker, but that is not a true name, for it bores holes into the tree only to feed upon the soft inner bark. Sometimes it makes these holes so closely together around the tree as to injure it, but not often.

The Flicker is the largest and handsomest member of the Woodpecker family. It is golden-brown striped, with black above. Its breast is light brown, spotted with black. There is a red spot on its head. Its wings and tail are lined with yellow. On its breast is a black spot shaped like a crescent.

Unlike the other Woodpeckers, it can sing, and will often feed on the ground.

The Flickers hollow out three or four holes for their nests in trees or in buildings. I do not know why they go to so much trouble, for one nest seems enough for any bird.

NARCISSA LEWIS.

THE CALIFORNIAN WOODPECKER.

(*Melanerpes formicivorus bairdi.*)

In suitable localities of the Western United States and Mexico, the beautiful Californian Woodpecker enlivens the forest areas with "its brilliant plumage, lively and familiar habits, and loud notes." It is a notable ornament of the woods, and, if encouraged, it will sometimes frequent the vicinity of dwellings. This species is partial to the regions of oak trees and is only common in those areas of its range where these trees are abundant, and the altitude which it will reach on the mountain-sides is the limit of the growth of oaks. It is a social bird, much more so, in fact, than any other member of the family and not infrequently two or more may be seen in the same tree. Dr. J. G. Cooper says: "They are fond of playing together around the branches, uttering their rattling rolls, and often darting off to take a short sail in the air, returning to the same spot." The Californian Woodpecker has a kindly disposition and usually lives in harmony with its own kind and most of the other species of birds. While it seldom quarrels, it resents with an exhibition of much spirit any thieving from its winter store of food. In many of its habits, it very closely resembles the red-headed woodpecker so familiar in the eastern United States. All observers are agreed that none of the woodpeckers are more restless or active; it is never idle. "No other bird belonging to this family could possibly be more industrious."

Major Charles Bendire, who carefully studied the habits of this Woodpecker, says: "During the spring and summer its food consists, to a great extent, of insects, including grasshoppers, ants, beetles, and different species of flies, varied occasionally with fruit, such as cherries, which are carried off whole, apples, figs, and also berries and green corn; but acorns always form its principal food supply during the greater part of the year, and large numbers are stored away

by it in the thick bark of pines, as well as in the dry and partly rotten limbs of oaks and other trees, also in telegraph poles and fence posts." While it hunts for its insect food among decayed branches, it also gleans among the crevices of the bark. In fact, it seems to spend less time than do some of the other species of woodpeckers in chiselling through the bark and wood of trees for hidden boring insects. At certain seasons, it is never too busy to cling to some dead branch and drum by the hour, a pleasure which it shares with its eastern relative, the red-head.

A most interesting habit of these Woodpeckers, and one that is peculiar to them, is that of storing acorns in cavities chiselled for their reception. This habit, however, seems to be confined to those birds that frequent the coastal regions of their range. Major Bendire says: "I have seen the thick bark of large sugar and other pines, as well as partly decayed oak limbs and telegraph poles, completely riddled with small holes. Some trees certainly contained thousands of holes. A section of a partly decayed oak limb now before me, which is three feet two inches long and five and one-half inches in diameter, of which only about three-fifths of the surface has been utilized (the remainder having probably been found too solid) contained two hundred and fifty-five holes by actual count. These holes are circular, and average about three-quarters of an inch in depth by half an inch in diameter; each one is intended to hold a single acorn, and they are generally placed from half an inch to an inch apart. The acorns fit these holes pretty accurately, and are apparently always driven in point foremost, the base of the acorn being flush with the surrounding wood and not readily extracted." Telegraph poles have been observed which were simply filled with these holes and Major Bendire tells of a black pine tree



CALIFORNIAN WOODPECKER.
(*Melanerpes formicivorus bairdi*).
About $\frac{1}{3}$ Life-size.

the bark of which was "perforated from near the base of the tree fully forty feet up and all around the trunk. This tree alone must have contained several thousand holes."

The smaller form of these Woodpeckers, found in Arizona and New Mexico, store their supply of acorns under the loose bark of dead pines and in "all sorts of chinks and hollows," and it is said that in Mexico acorns are stored by these birds in the "dry flower stalks of the yuccas and the maguay." There is quite a difference in the palatability of acorns, some species being sweet and pleasant to the taste while others are bitter. The Californian Woodpeckers seem to be able to distinguish between the two kinds and, so far as we know, always select the sweet ones. Dr. E. A. Mearns when lost from the command of the United States army with which he had been traveling in Arizona, and when short of provisions, filled his saddle-bags with half-dried acorns from under the loose bark of a dead pine where the Woodpeckers had stored them. But man is the least of the pilfering enemies with which these hard-working birds have to contend. They viciously resent the attempts of the jays, the magpies and the squirrels to help themselves from their larder, stored by their industry of the previous season. The Woodpeckers, so peace-loving among themselves, become belligerent when these thieves appear and attack them "with such vigor and persistency that they are compelled to vacate the premises in a hurry."

When the birds desire a meal of acorns they extract the nuts, and taking them to some broken branch drive them between the splinters or in some other place where they will be firmly held while the birds break them open by repeated strokes of their bills, and then they eat the kernels. Some observers have claimed that the acorns which are stored usually contain a grub which is not fully grown and that the acorns are stored merely that the grub may grow to maturity in a place where it may be readily found after it is fat. While this theory has been shown to be positively erroneous, the views of Dr. J. G. Cooper are interesting. He says: "These (the

acorns) are generally considered as laid up for a winter supply of food; but while in this climate (California) no such provision is necessary, it is also very improbable that birds of this family would feed on hard nuts or seeds of any kind. The more probable explanation is that they are preserved for the sake of the grubs they contain so frequently, which, being very small when the acorn falls, grow until they eat the whole interior, when they are a welcome delicacy for the bird. Whether they select only those containing grubs, or put away all they meet with, is uncertain; but as they leave great numbers in the tree untouched, it is probable that these are sound acorns, and often become a supply to the squirrels and jays."

As a rule the Californian Woodpeckers prefer to excavate their nesting holes in either living or dead oak trees, usually selecting the white oak. When such a tree is available, one that is living and in which the heart-wood is decayed is selected. They do, however, nest in other kinds of trees, such as large willows, cottonwoods and sycamores, and they have been known to excavate a hole and nest in telegraph poles. Both sexes assist in the work of excavating the nesting site. "Their entrance hole is about one and three-fifths inches in diameter, perfectly circular, and is sometimes chiseled through two or three inches of solid wood before the softer and decayed core is reached. The inner cavity is gradually enlarged as it descends, and varies from eight to twenty-four inches in depth, usually being from four to five inches in diameter at the bottom, where a quantity of fine chips are allowed to remain, on which the eggs are deposited."

This beautiful Woodpecker deserves protection. While it may, at times, eat some fruit of value to man, the total amount is insignificant when compared with the large number of insects and their larvæ, many of which are injurious to vegetation, which it destroys, are taken into consideration. The longer we study the habits of birds, the more deeply we realize that there are but very few species of which it may not be said, they are much more valuable than harmful in the economy of man.

MOUNTAIN AND VALLEY.

In the hollow of the hills,
Mountain-ringed, whose grandeur fills
All the eye with rugged grace,
Every lovely thing has place.
White clouds trail their shadows dim
Over every far peak's rim.
Vaporous barges, misty-prowed,
Through the azure sky-sea crowd.

Or the starry fleets at night
Moor awhile their shallows bright,
Spangling all the deeps o'erhead,
By some unseen pilot stayed.
Here the mist-wreath on the hill
Creeping higher, white and still,
Towers above the darkening dome,
Till it finds in clouds a home.

In this emerald chalice wide,
Sunlight pours its glory-tide.
Every breeze with fragrance fraught,
In this valley-vase is caught.
Here sweet, fragile flowers hide deep;
And the pine-clans climb the steep.
Here in hyacinthine shades
Flutes the thrush in ferny glades.

Cataracts in the gorges gleam,
Rushing from the ice-cold stream.
Vernal-vestured trees are stirred
When leaf-music faint is heard.
Aspens poise their wind-swept leaves,
And a miserere grieves.
Wild and tender beauty fills
All the hollow of the hills.

—MRS. MERRILL E. GATES.

THE TIGER BEETLE.

There are several species of this insect which vary in size and color. They are found most abundant when the sun is bright and hot. The roadside is a favorite place with them. They are long-legged, agile creatures, swift of foot and wing. As one approaches them they sit perfectly still but are ever alert and ready to dart away if one gets too near. Even after I have had them in the net they have escaped, so quick is every motion. As early as the 13th of March I saw them in Colorado,—especially the light metallic green ones. In my collection I have several varieties. One has the head, legs, thorax and under part of the body dark peacock-blue, with reddish bronze spots on the thorax. The wing coverings change from orange-red to purple-red, all with a beautiful metallic lustre.

One of the most common is spotted and striped not wholly unlike the markings of a tiger, whence its name. The rarest is the *Amblychila cylindriciformis* which, while found occasionally in various localities, is seldom taken in more than single specimens. On one occasion, however, the matter of single specimens was not the case. In the spring of 1878 the chancellor and two students of a certain western university went in search of Tiger Beetles and of this rarer kind especially. The market value of this little fellow was twenty-five dollars each and there was a clamorous demand from Berlin, Paris, Heidelberg, Edinburgh, London and New York, which no one could supply.

There was a suspicion in the mind of the professor that Western Kansas ought to be the abiding place of this particular beetle. The students were promised one-third of all the beetles they could catch, and the little expedi-

tion set forth. Wallace County was the final landing place and here three months were spent. The suspicions of the professor were not unfounded, for a part of the county fairly swarmed with these twenty-five dollar bugs. So many were captured that the young men sold their interests to the professor for enough to pay their way through college for two years. The professor never made a better bargain. With more than a thousand of the rare species in his possession, he sold enough to pay the students, pay all the expenses of the expedition, and complete through an exchange a collection of eight thousand beetles, the largest in the world. There are still a number of this species left with the professor and they are the only available ones in the world. Never before nor since has this species been found in any numbers. Wallace County has been searched from border to border, but only with a loss of time and money. The professor and his boys got them all. This rare fellow is described by Say as follows:

“Body dark chestnut brown, impunctured; head blackish; thorax narrowed behind, not elevated; scutel, none; elytra joined at the suture, rather paler than the thorax; irregularly marked with uneven punctures, many of which are preceded by slightly elevated point; a submarginal and marginal elevated line, line of edge acute, not more elevated than the others; epipluræ with larger and more distinctly scabrous punctures. Length more than an inch.”

I found many varieties of Tiger Beetles varying in size and color. There was one long stretch of highway along which I passed two or four times a week. Being ever on the outlook for specimens, I had come to the conclusion that they were not to be found along roads of

this kind—either side being white with alkali—until one day late in the summer I found a specimen. The greater number, however, are found on high sunny roads where alkali does not appear.

The habits of the Tiger Beetles in general are described as follows:

“These Beetles dig sloping burrows in the earth into which they retreat in stormy or cold weather.

“The larvae of the Tiger Beetle live in vertical burrows, which can be easily recognized after one has learned their characteristic appearance. These burrows abound in sandy places, in beaten paths, and in plowed fields that have become dry and hard. The larger ones, those occupied by full-grown larvae, measure about one-sixth inch in diameter, and often extend a foot or more in depth. The sides are smooth; the entrance to each is very regular in outline, and without any loose dirt on the surface of the ground near it, as is usually the case with somewhat similar burrows made by ants.

“When watching for its prey, the larva rests perfectly still at the mouth

of the burrow. Its dirt-colored head is bent at right angles to its lighter colored body and makes a neat plug to the opening of the hole. Its rapacious jaws extend upward, wide open, ready to seize the first unwary insect that walks over this living trap. On the fifth segment of the abdomen there is a hump, and on this hump are two hooks curved forward. This is an arrangement by which the little rascal can hold back and keep from being jerked out of its hole when it gets some large insect by the leg, and by which it can drag its struggling prey down into its lair, where it may eat it at its leisure.

“The holes of the Tiger Beetle larvae are always open when found, the larvae being frightened away by the approach of the observer. But sit down near them, and watch quietly, and soon they will be plugged by dirt-colored heads. Each passer-by will cause the cautious larvae to retreat; but they will return in a few minutes to their position of patient watchfulness, and here they wait like a still fisherman on a log.”

ALVIN M. HENDEE.

THE BIRDS WILL LIVE.

Should Nature's blithsome song-birds be withdrawn
From jolly earth and those whose listening ears
Drink every carol sung from early dawn,
Life would be cold or on the verge of tears.

But no! when birds are fled, earth has no green;
Her flowers are fathoms deeply covered o'er;
Her sun has slunk behind some dungeon screen;
Her human lives and souls are then no more.

Sweet liquid warblers of the swaying bough,
There is no loss of thee while man may hear;
Thy song will soothing be to many a brow
In God's long centuries of hope and cheer.

—WILLIS EDWIN HURD.



AMERICAN RED CROSSBILL.
(*Loxia curvirostra minor*).
♂ Life-size.

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THE AMERICAN RED CROSSBILL.

(*Loxia curvirostra minor.*)

Dr. Thomas M. Brewer has said of these birds: "These Crossbills are extremely gentle and social, are easily approached, caught in traps, and even knocked down with sticks." The American Crossbill ranges over the northern portion of North America, breeding from the northern portion of the United States northward, and in the Alleghany Mountains southward to the Carolinas. Its winter wanderings are very irregular, even reaching the vicinity of the Gulf of Mexico. There are few birds which are so erratic and uncertain in their migrations, and, at first appearance, so clumsily constructed as regards the shape of their bills. The creation of such a bill by the Almighty was even derided by the naturalist, Buffon, who was a Deist and who had not noticed the perfect adaptation to an end represented by the bill of the Crossbill. Unless the habits of this bird are studied in the field, we cannot realize that this peculiar looking crossed bill is perfectly formed for twisting off the scales of pine cones, thus enabling the bird to obtain the seed which lies at the base of each, and of which it is very fond. I shall never forget my first experience with this bird. It was a gray day in mid-winter at Lake Forest, Illinois. I was staying at a friend's home which is almost surrounded by pine trees. While seated at the breakfast table, we thought we heard the note of some bird. It did not sound quite like the flight note of the goldfinch but rather like that of the purple Martin, though much less distinct and with a crackling tone. After breakfast we started on an investigating tour, and on nearing a large pine tree, we noticed the falling of tiny particles of broken cone scales. Above us there were

eight or ten Crossbills feeding head downwards and rapidly twisting off the scales. They did not seem alarmed by our presence, and even upon the taking of the pair which were photographed for our illustration, the birds flew only a short distance and soon returned to resume feeding.

While the majority of the Crossbills which visit the United States do so during the winter season, I have seen them in the vicinity of Chicago as late as in the month of April. This does not seem strange, for it is well known that when a region furnishes an abundant supply of food the Crossbills may linger for some time beyond the usual time for the northward migration. They are also known to nest in regions of abundant food, which are far south of their natural breeding range.

Mr. Amos W. Butler says that during the summer of 1878 Crossbills were found breeding in the vicinity of Cleveland, Ohio. Dr. Wheaton reports them as having been known to breed in Indiana. A pair nested at Bloomington, Indiana, in 1885. The nests of the Crossbills are usually constructed with twigs, strips of bark and grasses, covered with moss and lined with moss, hair and fine rootlets. Generally they are built in coniferous trees in rather deep forests, and from fifteen to thirty feet above the ground.

The seeds of the pine cones do not furnish all the food of the Crossbills. They are also very fond of the flesh of apples. Mr. Otto Widman says that they were attracted to the vicinity of Old Orchard, Missouri, during the winter of 1891-1892 by the abundance of the apples left on the trees. He also states that they will feed on elm buds and the seeds of the horse weeds.

An old Norwegian nurse, knowing that I was interested in bird life, told me many years ago the interesting legend of how the Crossbills obtained their peculiar bills and red breasts. While the Savior was suffering on the cross, these birds taking pity on him, endeavored to withdraw the cruel nails and in so doing twisted their bills and stained their plumage with His sacred blood.

Nearly all the northern countries of the world have their species of Crossbills. There are two species in North America and in Europe two species of these birds are quite common in the coniferous forests of Germany and Switzerland. As early as the year 1776, Mr. Thomas Pennant mentions two varieties which he calls the greater and the lesser. He also noticed that these birds were inconstant visitants in both Germany and Switzerland, and that they nested in the pine forests, breeding as early as the months of January and February. He also speaks of their feeding on apples and states that with one stroke of their bills they will

divide an apple in order to obtain the seeds. Many of his observations apply equally well to the habits of the Crossbills of the present. They are fully as erratic in their breeding habits as they are in their migrations. They are known to breed in mid-winter as well as in early spring. Mr. Brewer speaks of a nest of the American Red Crossbill which was obtained at East Randolph, Vermont, early in the month of March. "The nest was built in the upper branches of an elm, which, of course, was leafless, the ground was covered with snow, and the weather was severe. The birds were very tame and fearless, refusing to leave their eggs, and had to be several times taken off by the hand. After the nest had been taken and the collector was descending with it in his hand, the female again resumed her place upon it, to protect the eggs from the biting frost." Like nearly all of our bird visitors from the far north, the Crossbills are gentle, confiding and friendly birds.

FRANK MORLEY WOODRUFF.

JUST RIGHT.

Bob White is telling his wonderful love story
Under the deep blue skies.
The stream is bending where willow's green glory
Bends to the wind minstrelsies;
The shad bushes flutter their dainty white dresses
Like spring maidens climbing the hills;
The popple-tree loosens her silver grey tresses
Where, with flute-like cadenzas and trills
The brown thrasher brushes his wings through the bushes
That border the trout brooks and rills.

The dark, ragged alders are shaking and tossing
Their yellow-brown curls in the breeze.
The meadow-lark sings till his young heart seems breaking
For love, on the upland and leas.
The blackbird is bubbling and shaking his shoulders
To show off his epaulettes bright;
Catbirds are squalling,
Cuckoos are calling,
Everything seems "just right."

—BELLE A. HITCHCOCK.

BIRDS AND NATURE

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SPRING COMES, JOY COMES.

When spring comes up the vale my lads,
There's joy in every breeze.
No more belated snows shall fall,
Our wearied souls to tease.

There's green, a tender, youthful green
Among the willow tips,
Fresh grass by little waterways,
Where bathing robin dips.

Now showers, now shine, then bursting bloom,
And spirits running high!
Where lay the dazzling, snow-white plains
Now glad, green banners fly.

When spring comes up the vale, my lads,
With joy in every breeze,
Fling wide all care! Come, haste, embark,
To sail the summer seas!

—FRANK FARRINGTON.

THE PROTHONOTARY WARBLER.

(*Protonotaria citrea.*)

"Pre-eminent in a galaxy of beauties is this truly 'golden' Warbler of the swamps." These are the words Mr. Dawson, and I quote them for they will surely express the opinions of all who are familiar with the beautiful Prothonotary Warbler. Its name seems long and harsh for such a delicate little bird, but it was probably given to it because the bird wears a yellow coat similar in color to that which the prothonotaries or court clerks wore long ago. While many of our warblers are clothed in rich and variegated colors, the Prothonotary seems to outshine them all in the minds of those persons who are familiar with the species of this large and interesting group of birds. Those who have only seen mounted specimens of the Prothonotary in the collections of our museums, cannot begin to realize the wonderful beauty of its plumage when, in life, it flies in the sunlight across some dark river or pool in the woods. The brilliant effect of the orange and yellow colors of its plumage, glistening in the bright rays of the sun, gives to one the impression of a ball of fire. To fully appreciate its radiant beauty it must always be observed against a dark background.

The Prothonotary Warblers are restless birds and very active. In fact, the restlessness of these little Warblers reminds one of the restless actions of the wrens, and for this reason they have been called in some localities, "Willow Wrens." Mr. Brewster has well illustrated its active habits in the following words: "He loves to hop about the floating drift-wood, wet by the lapping of pulsating wavelets, now following up some long, inclining half submerged log, peeping into every crev-

ice and occasionally dragging forth from its concealment a spider or small beetle, turning alternately its bright yellow breast and olive back toward the light; now jetting his beautiful tail, or quivering his wings tremulously, he darts off into some thicket in response to a call from his mate; or, flying to a neighboring tree trunk, clings for a moment against the mossy bole to pipe his little strain, or look up the exact whereabouts of some suspected insect prize." The Prothonotary is somewhat erratic, for at times it is quite sedate in its movements. At all times it seems to be fearless but it is never antagonistically bold excepting during the mating and breeding seasons when it will not permit a fellow male to come near its nest and mate. The males are jealous lovers and there are many "fluttering battles of yellow, steely blue, and white, though these conflicts are generally harmless to both parties, and serve only to give unwanted animation to the somber life of the swamp woods."

Lowland and flooded woods are the haunts of these attractive Warblers and there only does it make its home. For this reason its popular name Golden Swamp Warbler is a very appropriate one.

Its range includes the United States east of Nebraska and Kansas and from Iowa, Southern Michigan and Virginia southward. It is also an occasional visitor as far North as the New England States, Ontario and Minnesota. It winters in Cuba and Northern South America. Prothonotary Warblers breed quite throughout their range within the United States and may be considered resident wherever found in the summer season. In some favorite localities they are exceedingly common. This



PROTHONOTARY WARBLER.
(*Protonotaria citrea*).
About Life-size.

is particularly true in the lowlands bordering the larger rivers, and occasionally isolated pairs will be found nesting in similar localities along smaller streams. The nests, which are placed in deserted woodpecker holes, cavities in old stumps or even in deep crevices in old logs are usually plainly lined with rootlets or fibers from bark. Occasionally they are more elaborately lined with moss, feathers, cast off snake skins and other materials suited to the fancy of the birds. Early in the season it is quite difficult to locate the nesting sites, and often one is finally surprised at the number of pairs nesting in a colony. At Meredosia, Illinois, where I first made the acquaintance of these exquisite birds, I found them nesting on the comparatively dry river bank. Here, too, I found chickadees nesting and using excavations precisely like those of the Warblers. Later, while visiting the banks of the Kankakee River I naturally looked for the Warblers in similar situations but did not find them. But finally, much to my surprise, I found four pairs nesting close to the house where I was staying, near a small slough, which bordered a prairie. My experience would show that they

colonize at times in small numbers and that they will occasionally, at least, nest in the open, near to paths over which people are frequently passing. The experience of others would show, however, that as a rule the Prothonotary Warblers are very shy and retire to the denser swamps to rear their young. They are believed to raise two broods each season, the period of incubation requiring about two weeks. I have found that the number of eggs varies from three to six. According to Mr. Loucks, there has been considerable discussion regarding the number of eggs laid. While four, five and six seem to be the usual numbers, sets of seven have been occasionally found; sets of eight and nine are very rare and in one instance a set of ten eggs was reported. The eggs are beautiful and very interesting because of the variation in the markings, the colors, and the number in the sets. For this reason, large numbers have been taken by collectors and many of these useful birds have thus been destroyed. This extensive collecting of the Prothonotary's eggs should be discouraged by all who come in contact with collectors.

FRANK MORLEY WOODRUFF.

A RAINY DAY IN SPRING.

I was wakened at dawn by a liquid bird-voice trailing through my room, and blending with my dream. It was no dream sprite, however, but a real and feathered one perched upon my window sill, and pouring forth lovely melodies to greet the new day. A wandering voice; a prima donna of the woodland singing to the accompaniment of the murmuring pines near my window. A happy omen, even though it ushered in a rainy day.

Ah, how lovely was the walk among

the maples that day! With their rain-swept trunks and red blossoms, they looked like dryads dressed in black velvet gowns, and wearing dainty jewels of coral. Here and there the path was laid with a glowing rosy carpet of the fallen pink blossoms, fit for a fairy's footsteps.

The low shrubs were wreathed in a veil of delicate green, and the willows gently swayed their feathery, gold-green streamers, bending and rocking in the breezes. At one side of the road stood

a row of gnarled apple trees. They showed little promise of spring; but I knew the beauty which lay mysteriously hidden in those rugged branches only awaited the sun's ardent wooing to burst forth a cloud of pink and dewy loveliness. For, thus far, Old Sol had proved but a cool and indifferent lover. The buds of the larches and elms were beginning to timidly venture forth for a peep at the world; but the white birches were evidently distrustful of the fair but fickle Spring, and still rocked their buds in slumber to the breezes' lullabies.

Spring had cast a soft filmy veil over the woodland, here rosy, there merging

into golden and pale green; and the distant hill was wrapped in a mist of blue. The oriole's pathetic notes floated over the meadow, and the rain drops sang to the dogtooth violet buds, shrouded in their mottled waterproof cloaks, while the dainty spring-beauties were sighing to think their debut should happen on a rainy day.

As the day drew on to evening, a white misty blanket floated down over the fields and forest. The birds and blossoms slept, and every sound was hushed save the music of the rain and the brooklet's low evening hymn.

JEAN M. HUTCHINSON.

TO THE WOOD THRUSH.

The breeze comes in at my window,
Filled full of the breath of morn,
Of hay fields wide on this summer tide
Of garden and meadow and corn.

A Wood Thrush atilt in the maples,
Tells his joy in a cheery lay;
A sweet, low voice of the woodland
Greets the coming of full orb'd day.

O, gentle soul of the forest,
When hot the noon rays fall,
You sing of the dim, cool shadows,
With their peace and rest for all.

When even comes and long shadows
Fall out of the golden west,
You sing of the land of our longing,
Where good is transformed into best.

Teach us in the glow of the morning,
In the glare of bright noon day,
In the dim of lengthening shadows,
To brighten with music the way.

—JAMES S. COMPTON.



MARSH MAWK.
(*Circus hudsonius*).
About $\frac{1}{4}$ Life-size.

THE MARSH HAWK.

(*Circus hudsonius.*)

The Marsh Hawk, also known as Harrier and Mouse Hawk, is one of the most widely distributed of the American hawks, its range including the whole of North America from Alaska to Panama and Cuba. It breeds from the Gulf states northward. It is, perhaps, nowhere so common as in the prairie region of the middle west and especially that portion of the country forming the Mississippi Valley. In the New England states it arrives about the middle of April to the first of May; in the vicinity of northern Illinois it is a common summer resident and a rare winter resident.

Owing to the wide range of the Marsh Hawk, the time of nesting varies in the different localities. In the Southern states nesting begins early in April, while in Northern British America and Alaska it is early June before egg laying begins. Unlike most hawks, which nest high up in trees, the Marsh Hawk builds its nest on the ground in the vicinity of some stream or body of water. Occasionally a low bush is selected under which the nest is built. In many cases it is constructed upon a slight elevation, especially in a locality subject to overflow from a nearby pond or lake. The nesting site is generally plentifully supplied with growing grass or rushes, which serve in a measure to conceal the nest from possible intruders. The nest is a rude affair, loosely thrown together, about eighteen inches in external diameter and from eight to ten inches wide inside. It is composed of dried grass with here and there a stick, evidently introduced to give additional strength to the structure. In the New England states the nest is said to be rather neatly woven together, but in the prairie regions it is loosely and

slovenly made. The lining consists of soft grass or feathers and upon these the eggs, four to six in number, are laid. The eggs are dirty-white in color, tinged with blue and with more or less distinct brown spots. They measure from one and a half to nearly two inches in their longest diameter and about one and one-quarter inches in their shortest diameter. The period of incubation is from three to four weeks and but one brood is raised in a season. Both the male and the female assist in incubating the eggs, each one taking its turn in procuring food for the other. This statement is also true of the building of the nest, both sexes working vigorously until the nest is completed.

When young are in the nest the Marsh Hawk is exceedingly bold and fearless, quickly attacking dogs or other animals which approach too close to the vicinity of its home. It has even been known to attack man in its zeal to protect its nest. The young remain with their parents after leaving the nest, the whole family, with others which have nested in the vicinity, migrating south in the fall. The number of birds nesting in a given area depends very largely upon the food supply. If this is abundant a marshy locality may support a number of these hawks.

In his report on the "Hawks and Owls of the United States," Mr. A. K. Fisher writes as follows: "Though the flight of this Hawk lacks the elegance of some of the other species, it is well sustained and often protracted. When the bird is beating back and forth over the meadows in search of food the flight is easy, regular, but not rapid, and resembles closely that of some of the herons. In the spring the male sometimes goes through a series of aerial

evolutions which are highly amusing. While at a considerable altitude it throws its wings over its back, and falling several yards, turns over and over much like a tumbler pigeon until near the ground, when it ascends rapidly again to repeat the performance.

"When prey is discovered the Hawk poises for a moment over the spot and then drops quickly on it, and if unsuccessful is sure to beat over the same place before leaving. It generally devours its quarry on or near the spot where captured, instead of carrying it away. Its food consists largely of small rodents such as meadow mice, half-grown squirrels, rabbits, and spermophiles or ground squirrels. In fact, so extensively does it feed on the last-named animals that the writer rarely has examined a stomach from the West which did not contain their remains. In addition to the above it preys upon lizards, frogs, snakes, insects and birds; of the latter, the smaller ground-dwelling species usually are taken. When hard pressed it is said to feed on offal and carrion; and in spring and fall, when water fowl are abundant, it occasionally preys upon the dead and wounded birds left by gunners. It seldom chases birds on the wing, though the writer has seen it do so in a few instances."

That the Marsh Hawk is a most valuable bird to the agriculturist is undeniable. The records of the department of agriculture show conclusively that its food consists largely of harmful rodents which do the farmer thousands of dollars' worth of damage every year. It feeds on but few of the insectivorous birds and cannot, therefore, be considered harmful on that score. Speaking of the value of this Hawk, Dr. Fisher says:

"Although this Hawk occasionally carries off poultry and game birds, its economic value as a destroyer of mammal pests is so great that its slight irregularities should be pardoned. Unfortunately, however, the farmer and sportsman shoot it down at sight, regardless or ignorant of the fact that it preserves an immense quantity of grain,

thousands of fruit trees, and innumerable nests of game birds by destroying the vermin which eat the grain, girdle the trees, and devour the eggs and young of the birds.

"The Marsh Hawk is unquestionably one of the most beneficial as it is one of our most abundant hawks, and its presence and increase should be encouraged in every way possible, not only by protecting it by law, but by disseminating a knowledge of the benefits it confers. It is probably the most active and determined foe of meadow mice and ground squirrels, destroying greater numbers of these pests than any other species, and this fact alone should entitle it to protection, even if it destroyed no other injurious animals."

It is interesting to note some facts in regard to the ignorance of our legislators concerning this and other hawks. According to a leaflet recently issued by the National Committee of Audubon Societies, only fourteen states protect the Marsh Hawk, while thirty-five states and territories, not only permit it to be killed at any time, but in several instances have offered bounties for their scalps. One of the most notable cases of the last short-sighted policy was that of Pennsylvania which, in 1885, passed a bounty act that cost sixty thousand dollars the first year. This act was soon repealed, but not until many thousand valuable hawks had been killed. Virginia passed a bill protecting the hawks in 1903 and changed its mind in 1904 by repealing the act.

In South Carolina and other rice-growing states this Hawk drives away the reed birds or bobolinks, thus, in a measure, helping to protect the rice fields from the severe depredations of this omnivorous bird. Wilson has stated that the Southern planters consider one Marsh Hawk equal to several negroes for driving away these rice birds. All obtainable facts prove conclusively that the Marsh Hawk is one of the most beneficial of birds to the farmer and it is greatly to be desired that every state in the Union shall enact laws for its protection.

COLLINS THURBER.

FLORA'S FIRST OFFERINGS.

The earliest wood flowers are in bloom. Along the river-bank, half-hidden among the tangled thicket, the snowy blossoms of the bloodroot glisten, pure and white, and the yellow bells of the dogtooth violet, or adder's tongue, are opening under the magical influence of the sunshine.

The bloodroot is an interesting plant in many ways. It is a member of the poppy family, and secretes an orange-red juice, which the Indians once used for staining their faces when going on the warpath. The leaf is peculiar, clasping the slender flower scape, from which it slowly uncoils as the plant matures. The two green sepals fall as soon as the flower begins to open, leaving the white petals unsupported.

Bulbous plants, and those having thick rootstocks, which store up juices through the winter, are the first to blossom in the spring. The bloodroot petals have a waxy texture, beautifully white, and last only for a day. The first rude wind scatters them to the ground.

The adder's tongue (dogtooth violet) is manifestly misnamed. It is not a violet at all, but a member of the lily family. The twin leaves are almost as attractive as the flower, and has suggested the name of trout-lily. They are lanceolate in shape, pale green in color, and dappled with spots of brown. The dogtooth violet grows from a tuberous root deep in the earth. The yellow flower hangs downward like a bell, and swings in the wind as though swayed by invisible sprites.

On the warm hill slopes, hepaticas and arbutus were visible some days ago. The mountain pink, *Phlox subulata*, forms splashes of color against the brown grass, growing in tangled clusters along the sylvan pathway. It is an attractive little specimen, with its mass of interwoven stems and leaves lying close to the ground, and numerous dainty flowers ranging in color from white to purple.

The dainty Virginia saxifrage shyly lifts its head on the slender downy stem, which starts up from the rosette of small green leaves attached to a mossy rock. The name, saxifrage, signifies rock-breaker, from the fact that the roots sometimes split the stones apart when growing in the crevices. The florets are whitish, tinged with purple, in a dense little spike at the top of the downy scape.

The grove sandwort, a pretty little plant with delicate white flowers, can be found here and there in the open woods, where the warm sunshine falls.

Conspicuous against the green pines and hemlocks on the hillside, the white flag of the June berry tree waves in the breeze. Flowering at the time when shad begin to run up stream, it also goes by the name of shad-bush or shad-flower. The snowy petals hang in terminal racemes, and appear long in advance of the green leaves.

Honey bees hover among the yellow catkins of the willows, and the red buds of the sugar maple. The willow and maple are the first honey flowers to appear. Arbutus, hepaticas, bloodroot, violets and other early flowers contain no sugar for honey making.

The dandelion is a honey flower, and a favorite of the bee. It is the first composite flower to bloom, and wonderfully beautiful, in spite of popular prejudice to the contrary. It is a truly marvelous flower, combining in one head a multitude of separate florets, most daintily formed. Only by the aid of a magnifying glass can we see and realize the interesting structure. Scattered among the grass, or clustered by hundreds on a sloping bank of green, can anything be lovelier than this golden-hearted flower? Surely it is unjust to despise anything so wonderful, just because it chooses to glorify the earth beneath our feet.

CHARLES F. FUDGE.

THE SCISSOR-TAILED FLY-CATCHER.

(*Milvulus forficatus.*)

The Scissor-tailed Flycatcher is perhaps the most graceful, as it certainly is one of the most beautiful, of the thirty-five species of the flycatcher family whose ranges bring them within the borders of the United States. It may be called a bird of Texas, and it also frequents the adjacent regions of the United States as far northward as Southern Kansas and southwestern Missouri, and the region southward through Mexico to Costa Rica. It is a notable wanderer and solitary individuals have been reported from various localities through the eastern United States as far north as the Hudson Bay Territory. In Texas, where it is much admired and is a common summer resident, it is commonly called the Texan Bird of Paradise, and it is also called Swallow-tailed Flycatcher. Its names are all given to it because of its elongated outer tail feathers which it opens and closes whenever it so desires.

These Flycatchers are very graceful when flying or when perched upon the limb of a tree. Upon the ground their long tails are in the way and they are quite awkward in their movements. However, they seldom light upon the ground for nearly all their food is taken while upon the wing. They have a kindly disposition, especially toward their fellows and the smaller birds. But like their relatives the kingbirds, they vigorously attack hawks, crows, jays or any other of the larger birds which approach too near their homes. While not gregarious, they are socially inclined and may often be seen in small flocks of five to ten individuals. They also frequently nest in small colonies. Major Bendire says of these Flycatchers: "They do not begin housekeeping at once after their arrival from their winter quarters in Central America, but dally for several weeks in courting and

love-making and having a good time generally before they begin their more serious duties of reproduction."

That the Scissor-tails have a fearless character is well shown in their selection of a nesting site. They seem to seek publicity and will not only seek a solitary tree but will also build their nests as a rule, in exposed places upon a horizontal limb. Neither do these birds seem to have any choice regarding the materials to be used in the construction of their nests. Any material, near at hand, that can be used is perfectly satisfactory. Because of this indifference, their nests vary greatly both in size and in the materials used in their construction. While the walls usually consist of twigs, small roots and herbacious stems, especially those of low annuals belonging to the genus *Evar* and related to the everlastings, either Spanish moss, wool or raw cotton may make up nearly the whole bulk of the nest and "rags, hair, twine, feathers, bits of paper, dry grass, and even seaweeds may be incorporated in the mass." Nests have been seen which were composed almost entirely of cotton twine and a few twigs. The nests are lined with feathers or some other handy soft material.

Both parents assist in feeding their young, exclusively insect food. As the summer advances, both young and old congregate in the fields and prairies before they begin their southward migration. The Scissor-tails are useful as well as ornamental birds, for their foods mainly consists of insects and they consume large numbers of grasshoppers, locusts and cotton worms. They also eat berries to a limited extent. As they gracefully and slowly fly from tree to tree they frequently utter rather soft twittering notes which have been likened, in sound, to the syllables "psee-psee."

FROM COLL. F. M. WOODRUFF

SCISSOR-TAILED FLYCATCHER



PREPARED FOR THE U.S. NATIONAL MUSEUM

AMONG THE TREES.

THE MAPLE.

Mabel stood looking at the pine-crowned hills, which rose tier above tier like mighty terraces. A great glory had fallen over the woods, for they had donned their autumnal garments, making terraces of red and bronze. The evergreens looked like great castles with towers and citadels; the elms and poplars were golden steeples, gilded domes and minarets which quivered and glistened in the sunlight; the ashes lent their lavender and purple tints; the sumacs and red maples flung out their scarlet banners. What glorious robes they wore after all the green riot of summer!

Mabel thought of the old Indian legend and, with her mind's eye, she saw the Great Father sitting idly on the mountain-top, smoking his long pipe of peace and blowing the smoke into all the valleys, for Indian Summer was now king and his purple haze lay on the distant hill-tops, filled the valley beneath and bounded the horizon on all sides. Following the bent of her inclinations, she wandered off to the woods; some late clumps of golden-rod nodded their heads at her as she passed, and she thought of the fantastic legend of their creation. She fancied she saw the young prince wandering through the forest where he came suddenly upon a kind-hearted fairy who asked him what wish he would have granted. Long and earnestly the little fellow thought, for he knew that he would some day be king of a mighty people and his chief desire was for their good. She fancied she saw the wistful look on his face as his eyes fell upon the tiny sceptre which hung by his side and then thought of the barren roadways. "Kind Fairy," he said, "Grant that there may spring up along the roadways and the highways of this kingdom, golden sceptres pointing toward Heaven, that my people may have their thoughts lifted from earth to God." She saw the great transformation that took place as, immediately, the soft, fluffy tufts of golden bloom

appeared on every side, pointing heavenward.

Mabel chose a grassy knoll beneath a maple tree, and sat enjoying the full beauty of the scene. How the mellow haze softened all the rough, rugged outlines of the landscape, adding but another charm to it! A robin perched on a near-by ash and looked at her with bright, inquisitive eyes.

"Oh," said Mabel, "You need not turn your head and look so wise. I've been reading about you lately, and I know, O Bird of the Cross, that you are not the only bird to whom legendary lore ascribes the honor of trying to relieve our Savior's sufferings in those last dread moments. I've come to hear the Maple talk, Robin."

"I'm just in the humor for it, fair maiden," said the tree. "Look at my gorgeous robes. We are all arrayed for a party to be given by Professor West Wind sometime between the fifteenth and twenty-fifth of this month. How we enjoy those parties to which all the leaves are invited! They whirl through the air, they scamper along the ground, they play hide and seek around fallen trees, or in the dusky hollows, they dance and play about until tired, when they settle down to form a carpet for wandering feet, or a blanket for the tender roots of wild flowers. Our year's work is about finished, and it is well done; no wonder that we are happy and gay; we have one more task to do—a pleasant one—to form a protection for the delicate spring beauty which fairly covers this grassy knoll at my feet when the warm spring days come. Look at me, how pretty I am in my robes of flaming red! I am a Red Maple and it was of me the poet thought when he sang:

And when her leaves, all crimson,
Droop silently and fall,
Like drops of life-blood welling
From a warrior brave and tall;
They tell how fast and freely
Would her children's blood be shed,
E're the soil of our faith and freedom
Should echo a foeman's tread."

"Do not listen to that vain tree," seemed to come in majestic tones from a lordly Maple close by. "If you will listen to me I will tell you, that although we grow so numerous in this fair country, yet only nine branches of our family are found here, while in China and that little sea-girt kingdom of Japan, whose shores are washed by the waves of the mighty Pacific, thirty members of our family are found and we constitute fully one-third of their forests.

"What the bread tree is to India and Ceylon, the milk tree to South America, that we are to North America, for Maiden, I am a Sugar Maple," and he shook all his leaves of crimson and gold.

"A Sugar Maple," said Mabel. "Farther back in these woods there used to be a shanty where we children would watch them make sugar. There were huge kettles hung on a stout pole which was laid in the crotch of two posts set in the ground. John told us that the fire was never permitted to go out day or night, for the sap must be kept slowly boiling. As the sap thickened in one kettle he would take a long-handled ladle and dip it into the next kettle, and so on until it reached the 'end-kettle'; when this syrup began to crystallize then our fun commenced. How pretty the syrup looked as it was poured out on the clean white snow where it speedily became wax! We all had large, new chips on which we were given our wax. How good it tasted!"

Mabel leaned against the tree and let her mind wander back to a night when she and another coaxed John to let them stay quite late and go home with him on the bobs. How well she remembered the sound of the wind in the tree-tops; the ruddy glare of the fire; the beautiful sight which the sparks presented as they flew upward; the long ride home in the sleigh with the stars shining so bright and clear. How wildly picturesque it was!

"In some parts of Vermont," seemed to come from the tree, "New York State and Pennsylvania, we are a great source of income. The industry has grown to such an extent that the annual yield is about 100,000 lbs. An average

tree of the Sugar Maple variety produces from four to eight pounds yearly. Our wood, too, is more valuable than that of the other members of our family, being reddish-brown in color and capable of taking a very high polish. When we are used as fuel our ashes are of great commercial value, owing to the vast amount of potash which they contain."

"Are there legends in connection with your family, Sugar Maple?"

"Well, not exactly, though one of our members, the Sycamore Maple, has a very peculiar and fascinating history.

"A certain legend says that when Joseph and Mary, with the infant Jesus fled into Egypt they rested under a sycamore tree. Now in the twelfth and thirteenth centuries miracle plays were produced in all the churches of Europe for the instruction of the people; one of the favorite scenes was the flight into Egypt, as it was so easily put upon the stage. They must of course have a sycamore tree, but no trees of that name grew in those countries where the plays were acted. Now this certain maple was chosen to take its place because its leaves greatly resembled those of the true sycamore, and naturally the people began to call it by that name and such it has remained to this day.

"The bark of the Sycamore Maple resembles that of the beech more than any other tree, but while the bark of the beech is always smooth, this is smooth only when young. As the tree grows older the bark breaks up, is scaly, and can easily be peeled off. Then, too, the bark of the beech is a soft, greenish-gray, while that of the Sycamore is much prettier, being brighter and yellower and marked with black. Although not as beautiful as many other trees, the Sycamore Maple can always be depended upon to grow erect and spread its broad branches on all sides, never growing away from the prevailing winds and losing its shape as some trees do. Erect it stands and throws its shade equally on all sides, no matter how fierce the tempests, how strong the winds, it bravely conquers circumstances."

"I think the Maples are such pretty trees, and they seem to flourish anywhere. In an old book which I was reading this morning I saw a nice piece of poetry and the writer evidently thought similarly, for he said:

Down sunny slopes and valleys
Her graceful form is seen;
Her wide, umbrageous branches,
The sun-burnt reapers screen;
'Mid the dark-browed firs and cedars
Her livelier colors shine,
Like the dawn of a brighter future
On the settler's hut of pine.

She crowns the pleasant hill-top,
Whispers on breezy downs,
And casts refreshing shadows
O'er the streets of our busy towns;
She gladdens the aching eye-ball,
Shelters the weary head,
And scatters her crimson glories
O'er the graves of the silent dead."

"One member of our family, the Moosewood, is an extremely beautiful tree, especially in the spring when the delicate, exquisite coloring of its opening foliage clothes its slender, graceful branches as with a misty, rosy sheen. Its blossoms are yellow and hang in graceful drooping racemes, which are followed by large, showy keys. It bears the largest leaves of all our family."

"Moosewood is a very peculiar name. Surely there must be a reason for such a name?"

"Yes, there is. Years ago there were plenty of moose in the New England States, and these animals were particularly fond of the bark and branchlets of this tree, because they were filled with a saccharine juice which just suited the palates of the moose, who would completely strip the trees.

"There is a member of our family, the Silver Maple, which in poise and outline resembles the elm. It, too, divides into secondary stems and its branches have the same airy upward and outward sweep, ending in slender, drooping branchlets; but it is a much prettier tree when its finely cut leaves sway in the passing breeze because their underside is of a silvery whiteness which adds much to the delicacy of foliage. It is also like the elm in another respect, as it likes a moist situation for its roots, and will not flourish in dry ground. It

is the first tree of the wildwood to fling out its blossoms on the spring air, nor does it don any brilliant colors in the fall, wearing a dress of dull, pale yellow.

"Another member of our family which has not a tinge of red in its autumn coloring is the Box Elder, sometimes called Ash-leaved Maple, because its leaves are compound. This tree, if allowed plenty of room, is very useful as a shade tree, for it grows to an enormous size, its great wide-spreading branches throwing their protecting arms around the cozy little home nestling beneath its shade."

"I know of one whose shade is a welcome retreat in hot days. It is a fine tree; I have stood beneath it and looked upward into its great leafy dome and admired it beyond measure. I never knew though that it was a member of your family."

"Yes; the fruit of a tree determines the family to which it belongs, and the double samara is a characteristic of the Maple family."

"Do you know," said Mabel, as she looked at the glowing picture before her, "that the country would not be nearly as beautiful in the fall, were it not for the Maples?"

"Yes, I do know it and our beauty, if nothing else, should be a sufficient reason for our being. While the ashes assume a purple tint; the poplars, elms, birches and willows don robes of yellow; the oak a golden brown, with a glint of red; we, the Maples, revel in shades of crimson, red, gold and orange. Look at that tree yonder, all save one branch is still in its summer robe of green, that branch is as if dyed in blood; look at those leaves of mine," and he shook himself until the beautiful leaves flew hither and thither on the light breeze, like gorgeous tropical birds. Mabel gathered a few of the brilliantly marked leaves of crimson and golden yellow, fingering them lovingly.

"Now," came from the tree, "I will tell you something which, perhaps, you never noticed. A tree assumes the same color year after year and never departs from it. The colors may be deeper some years than others, but the same

colors prevail. I always have red and gold tints; over yonder is one in green and gold, still another whose green leaves are mixed with red and gold. The tree beneath which you are sitting always dons red. It is a Red Maple, and well it deserves the title, for its blossoms flush red in the April sunshine; the warm kisses of the sun ripen the keys to a glowing scarlet; its young leaves come out red and the full grown green leaves swing on scarlet stems; its young shoots are the same deep color and in the autumn it is always as you see it now, a brilliant, glowing crown of flames. How the Red Maples brighten up the landscape when seen beside the somber pines.

"I believe there is quite a controversy as to the cause of our leaves changing color. One claims that all our brilliant, autumnal beauty is due to the Frost King who touches us with a gentle or a ruthless hand, as the case may be; another claims that when the leaves become old, they lose their power to separate the gases perfectly, and so take in some of your oxygen—of course, you know that all plant life lives on what the human lungs expel, carbonic acid gas—which gives them brown and red and yellow tints. Still another authority contends that our beauty is due to the character of the preceding summer, claiming that if the summer has been rainy, keeping our leaves full of sap and our cuticle thin and distended, the autumn tints are brilliant and we are a marvel of beauty in our glorious loveliness; but if the summer has been dry our tints will be dull and somber."

"Well," said Mabel, "I rather fancy the latter theory is the true one, for we have had but little frost; the summer was a wet one and I am sure I never saw the woods as beautiful as they are now."

"There may be another and a deeper reason for your thinking thus. You have never carried the 'ears of imagination' with you before this season; therefore never wandered about in the new world which lies on all sides and through which you roam at will. You look at trees as you never did before, the wind in their branches is but the

voice of the tree; the birds sing and you interpret their notes; the brook flows past, and you listen to its murmuring and know that it is singing in the gladness of its existence."

"Tell me, Tree," said Mabel, as she looked upward and saw some deserted robins' nests in the branches, "why do you not shake down those unsightly nests which I see in your branches?"

"I would not do that, in fact I try to keep them, for then next summer the birds will see that I am a good site for summer residences and perhaps build in my branches again. It gives us pleasure to have the birds about us, flitting through our branches and rearing their young, for the birds are our friends. They destroy the myriads of insects which prey upon us and rob us of our vitality. If the birds are allowed to be ruthlessly destroyed the insects increase in enormous numbers. It cost the state of Massachusetts in one year over one hundred thousand dollars because it did not protect its birds.

"A great Frenchman once said that if it were not for the birds, human beings would perish from the face of the earth.

"Perhaps," continued the Maple, musingly, "we have a deeper feeling for the birds than any other trees. Did you know that we have certain markings in our wood which resemble a bird's eye, and therefore is called 'Bird's eye Maple?' This wood is very valuable owing to the beautiful markings; then there is the Curly Maple, also very valuable. Now these markings appear in all members of our family, but there is no outward indication by which it can be told, and only experienced woodmen can detect them in the living tree; this they do by some peculiarity of the bark."

The Maple ceased, and although its graceful branches swayed in the rising wind, and although Mabel listened long and earnestly she could hear nothing but the wind, which seemed to touch her with a chill hand, so, rising, she said: "Good night, dear Tree, how much I would like to attend this grand ball! But as I am not invited to remain, I had better go home."

EVELYN SINGER.



THE HIGHTHAWK.

(*Chordeiles virginianus*.)

In the high, pale heaven he flies and calls;
Then swift, oh, swift,
On sounding wing
That hums like a string,
To the quiet glades where the gnat clouds drift
And the night moths flicker, he falls.
Then hark, the Nighthawk!

—Charles G. D. Roberts, "The Nighthawk."

It is to be regretted that the name Nighthawk has been given to this bird of our illustration, for it is misleading and the latter part of the name is certainly a misnomer. It is not a hawk in any sense of the term unless its long wings may seem to resemble those of a hawk. It is a perfectly harmless and inoffensive bird, feeding upon insects which it catches while on the wing. The Nighthawks are not strictly nocturnal birds for they fly in the twilight as well, and are not averse to hunting on the wing during the more somber days. Possibly the name Nighthawk may be sanctioned, as applied to those birds, if we take into consideration only their long pointed wings and their method of flying which is quite hawk-like. The enormous gape of their bills assists them greatly in catching insects, as they pass through the air in a free and graceful flight. As they soar, at times, apparently with motionless wings, their sharp and hawk-like eyes soon perceive any insect that may be flying, when the birds with open beaks will dart like a flash after their quarry and it is probable that they seldom fail in their aim.

The Nighthawks are related to the whip-poor-will, and they have been classed in the same order of birds as are the swifts and hummingbirds. This is certainly an artificial rather than a natural classification, for the Nighthawks are not more than distantly related to either the swifts or the hummingbirds. In the popular view, the Nighthawk and the whip-poor-will are commonly confounded, but they are quite different both in characteristics and habits. The whip-poor-will is more strictly nocturnal in its habits, and its

weird and plaintive notes, as it calls its own name, cannot be mistaken. On the other hand, the note of the Nighthawk is a loud and harsh whistled note, uttered while on the wing. It may be identified while flying, by the white bar which plainly shows on the under sides of the wings. Then, too, the males of this interesting species have the curious habit of taking "great parabolic headers" from high in the air. At such times, he shoots downward with a velocity that seems uncheckable, and it appears as if he would strike the earth with great force, but he finally turns, with a graceful curve, and flies upward. At the moment of turning, a booming sound is heard, which Mr. Nuttall has likened to the hollow whizz produced by "the rapid turning of a spinning-wheel or a strong blowing into the bung-hole of an empty hogshead." This sound is produced by the rapid passage of the air through the primaries of the bird's wings.

The Nighthawks are equally at home in either forest or treeless regions, though they prefer the more open regions. During the warmer and brighter portions of the day, and very dark nights; they rest by roosting upon trees, rocks, logs, fences or on the ground, but wherever they roost, the coloring of their plumage harmonizes so well with their environment that they are not easily observed. Because of the weakness of their feet and legs, they do not perch crosswise on the limb, or other object of like nature, upon which they are resting, as do the majority of birds, but stand or lie lengthwise upon it. They are attracted to towns and cities because of the abundance of insect life afforded by thickly settled localities.

The range of the Nighthawk is quite extensive as it extends from the southern portion of the British Possessions, southward through the United States east of the Great Plains, and through tropical America to the Argentine Republic. Throughout its range it is known by several common names, some of which are Nightjar, Mosquito Hawk, Bull-bat and Pisk. They breed through-

out the eastern United States but build no nest, the eggs being laid in more or less sheltered places upon the bare ground in fields, upon rocks, or occasionally upon the flat roofs of buildings in the country or in cities. But two eggs are laid and, as these are so colored as to closely match the general colors of the ground, they are very difficult to find.

AN AUNT JANE STORY.

MOTHS.

The children had been invited to a party where they were to have games and refreshments. Early in the afternoon it rained, and made the road too muddy for the drive. The children were so much disappointed that they seemed inconsolable. "Never mind," said Aunt Jane. "It is clearing off, and in spite of the mud, I think we shall be able to entertain company at home."

"If we cannot go, I do not see how any one can come," pouted Bird. "Have you invited anybody?"

"My visitors have such an easy way of getting about that, although they do not like dampness, I think a few will come," responded Aunt Jane. "I have not invited them yet, but I will do so at once, as it is dark and we are to be at home."

She lighted a large lamp, took the screens out of the windows, and told the children to sit down around the table, as a visitor might now be expected at any time. The children looked their astonishment, but in a moment Howard cried:

"I see! I see! Here they come—a whole bevy of Moths—flutter, flutter, flutter!"

"Get the magnifying glass; be quick! One of our visitors has fainted; she found our lamp too warm. I must see the color of her dress," said Edith. "Do look, all of you," she continued; "this lady has the most exquisite pale smoke colored gauze dress dashed with lines of gold."

"Her gown is rather too artistic for such a plain entertainment as ours," said Aunt Jane, taking a peep; "it is fine enough for a fancy ball."

"Look!" cried Alice. "Another one has stopped dancing about the lamp, and lies in state upon the table. He is yellow, black and crimson, under the glass, though his dress looked plain enough when he came in at the window. Do Moths usually dress in such bright colors?"

"Some of them do. The great Indian Moth, that Longfellow sings about in 'Hiawatha,' is a large black one with handsome scarlet wings—and—"

"Who would have dreamed," interrupted Edith, "that the wings of Moths have such lovely colors and delicate patterns; here is one pale pink and there is one in dainty yellow. Moths seem to be night butterflies. How did you happen to think of introducing us to such entertaining company?"

"The thought grew out of my own interest in Moths. I have been studying the pretty creatures for some time, and I begin to consider them the most interesting of all my evening callers."

"Do you ever return their calls?" queried John.

"Indeed I do. Only last night I went out to the primrose hedge to visit the Humming-bird Moth. The finest specimens of the moth family do not come into the house. Just as the evening primrose began to unfurl its yellow

tents, there was a whirr of wings, and the Hawk Moth, or Sphinx, as it is sometimes called, made its appearance, and began to probe the opening primroses with its long tubular proboscis. It looks so large that it is often mistaken for a humming bird—hence its name. Sometimes it comes to the window to visit the scarlet geranium. It hovers over the flower with vibrating wings till it extracts the honey."

"Suppose," said Howard, "that you wish to catch Moths, nets cannot be used very well at night."

"No; but a favorite method with amateur naturalists is to carry a lantern, and spread beer and molasses on the trees to allure the Moths. To go out 'mothing' is really a very exciting experience."

"We'll know all about it before long," said John to Howard.

"Do Moths have any enemies besides man?" Alice inquired. "I know the clothes moth and those that ruin vegetation are detested."

"We cannot help our attitude toward

The little Moth

Late fattened on a piece of cloth.

Yet even he is interesting. As soon as he is born, he weaves for himself a cylindrical tube of wool and hair, and lines it with some silky substance. The fashion of this dress is only changed by making it longer, or by the insertion of gores in the sides, if it becomes too close; sometimes these patches are very different in color from the original, as the color depends on that of the material used."

"Do any of the other Moths make dresses or build houses?" John inquired, with a growing interest in the subject.

"Many of them," was the reply, "are wonderful little architects, using all sorts of material. One kind makes its habitation of lichens; another unites little stones with a silken cement. The Goat Moth makes himself a covering thick as broadcloth out of the raspings of wood united with strong silk. Some Moths live in silken dwellings. Leaves are a favorite material. These are made into rolls of various shapes, cylindrical, conical, horn-shaped, and are securely fastened at the edges with silk threads.

One ingenious little builder is obliged to gnaw the stronger veins of the leaf at regular intervals in order to bend it to his purpose. Another has a house-raising. When he gets his triangular piece of leaf ready, he applies the weight of his body to thread-like cables, and so raises it to the perpendicular."

"I never knew before," said Madge, "that Moths had any sense. I never saw them do anything but stupidly burn themselves."

"You see," was the reply, "that even insects must not be judged by mere appearances. There is one little Moth called the 'Gold-tailed' that, having constructed a capital little home, spreads a soft carpet wherever she must tread in getting her food. The Silk Moth is by far the most useful of Moths, but it is not interesting in the moth state. It is pale buff, does not use its wings, and seldom goes but a few feet from the cocoon where it is hatched. The worm stage, especially the silk spinning period, is the time to watch with interest this little creature whose marvellous spinarets clothe in silken raiment the inhabitants of the earth."

"I like best the Moths that, dressed in silk themselves, come to visit at night," said Madge. "They are cunning little dears."

"I am glad you admire your new acquaintances," her aunt replied. "You know that many of the long-tubed flowers which supply the Moths with food open only at night, so there is a reason why Moths should be up and out in the evening; but as no such necessity exists in the case of children, you may all go to bed."

"Now we protest," said Alice, "that it is cruel to send us to bed until you promise to take us 'out mothing' the first fine evening."

"I'll agree if you will," John volunteered, "to smear the trees with molasses."

"As John has taken the sweetest part of the performance, the rest of us will hide in the hedge and watch for the game," said Howard.

"Very well," was the response, "and now good night and pleasant dreams."

BELLE PAXSON DRURY.

THE ORCHARD ORIOLE.

(*Icterus spurius.*)

The beautiful and sweet-voiced Orchard Oriole possesses only the good attributes of bird life. All its habits are above reproach. The male is bright and active at all times; has a wonderfully pleasing song and more than all, he with his mate, are among the best of our bird friends. They industriously search our orchards and gardens for insects, destroying enormous numbers of many species among those which are the most harmful to plant life. While this bird makes its home in the quiet shade of fence rows or in the trees that line the banks of streams, it is well named the Orchard Oriole, for it loves the orchard and there, as a rule, it builds its home and raises its young. While the male is always restless and seems hurried, his mate is shyer and has a more retiring disposition. She spends her time quietly attending to the duties of her home. In spite of his love of song and his hurried nervous ways, he is an excellent helpmeet and is constantly hunting for choice insect tidbits for his family. He is a good bird husband; she is a good bird wife; and both are the best of parents.

The nest of this Oriole is a beautiful, interesting piece of bird architecture. As a nesting site this species is, fortunately for the fruit culturist, very partial to fruit trees, especially the apple. There is no better description of these ingenious homes than that of Mr. Dawson, whose words we quote: "Green grass blades of the tougher sorts are twisted and wrapped and interwoven with the skill of a lace-maker, until a pouch some three inches wide by four inches deep is formed. This is made fast by the brim to the spreading forks near the tip of some horizontal apple-branch, somewhat after the fashion of the vireo's; or else, and more commonly,

it is slung between two or three spreading upright forks. In the latter case it is tightly lashed, for its entire depth, to two or more of the ascending branches, thus more closely assimilating certain types of the redwing's nests." Frequently the wall of the nest is so thin that the eggs or young may be seen through it, yet it is so firmly woven that the nest is very durable. So well does the bird weave, that the ornithologist Wilson found that a blade of grass thirteen inches in length, which he had taken from a nest, had been passed through and returned no less than four times. Mr. Wilson also says: "An old lady of my acquaintance, to whom I was one day showing this curious fabrication, after admiring its texture for sometime, asked me, in a tone between a joke and earnest, whether I did not think it possible to teach these birds to darn stockings."

The Orchard Orioles breed throughout their range within the United States, nesting from the Gulf of Mexico northward nearly to the British Possessions and east of the Great Plains. In the northern portion of their range, the nests are quite well lined with wool, feathers, vegetable down, or other soft materials.

The song season of the Orchard Oriole is all too short, for it draws to a close early in July. Mr. Burroughs speaks of its sweet song as "strong, intense and emphatic." It is the song of an energetic spirit, and while it may lack the richness of the Baltimore's song "We are charmed with the rapidly enunciated arias" and the piquancy with which the notes are uttered. This song would seem to be the unrestrained expression of perfect satisfaction and happiness. The Orchard Oriole sings as he flies, and while he is searching for



ORCHARD ORIOLE.
(*Icterus spurius*).
3/4 Life-size.

insects he often stops to sing his hurried measures. His somber colored mate, who is quietly attending to the duties of her home, hidden from view by the foliage with which her color harmonizes, must enjoy his merry melody and vivacious ways. Then, too, he takes to her some of the insect tidbits which he has gleaned.

The words of Mr. Chapman will form a most appropriate finale to any discussion regarding the Orchard Oriole: "There is an air of refinement

about this bird which seems to pervade his whole life history. He dresses quietly but with excellent taste, his nest is of the choicest materials, while his song suggests the finished effort of a perfectly trained performer. His voice is indeed unusually rich and flexible, and he uses it with rare skill and expression. Words can not describe his song, but no lover of bird-music will be long in the vicinity of a singing Orchard Oriole without learning the distinguished songster's name."

THE ORIOLE'S NEST.

A whirl of wings, a flash of light,
A glimpse of orange and of night,
A trill of song both sweet and low—
The sights and sounds that charm us so.

A nest of straw and grasses neat,
A home for birdlings, fresh and sweet,
So high above on slender rack,
Is swinging gently forth and back.

On lofty bough the nest is made,
And glimmers in the light and shade,
Among the leaves so deep and green,
They shimmer in their silver sheen.

The maple tree is tall and old,
That stood through heat and winter's cold;
Its twigs are strong to bear the nest
Of orioles with golden breast.

So silently they come and go,
With scarce a note, though soft and low,—
The orioles are bringing food
On tireless pinions to their brood.

Oh, what a nest of love is this,
Sweet emblem of the heav'nly bliss,
Where hallowed peace and calm abide,
Through all the gentle summertide!

—W. H. SHEAK.

MY SQUIRREL NEIGHBORS.

When Mr. and Mrs. Bushytail moved in the big butternut tree in my next door neighbor's back yard I think I was a witness of the event, for surely such scurrying up and down the tall trunk, such whisking in and out among the bare branches, such peering of bright eyes into every crack and fissure of the rough bark, and above all such incessant and excited chattering could signify nothing less important than the inspection of new premises with a view of occupancy.

Just why a pair of youthful red squirrels should forsake a sylvan home to make their abode within the sound of whirring factories and jangling street cars would be hard for us humans to guess. Whether the pretty bride had high notions and wished to have her fling amid city life; whether the dapper husband had astutely measured his chances in the business world and decided to locate where things were doing, or whether it was with the thought of metropolitan advantages for their future offspring—at any rate, there the couple were, bag and baggage apparently, and soon feeling thoroughly at home in the cosy "sky parlor" which a wind storm, tearing off a hollow limb, had prepared for them.

Perched high up in the portico of this apartment, leaf-hidden as spring advanced, and looking down upon the broad gables of the dwelling house at the front of their special domain; to the right, upon the gnarled and wide-spread apple tree which every Maytime snows its petals upon my grape arbor; to the left, upon the long row of sweet peas nodding familiarly over their wire netting to the denizens of Cottage Street; to the rear upon the blazing line of nasturtiums straggling from the turf edge down over the masonry embankment to look at themselves in the brook that prattles past, and lastly looking upon

the stretch of fresh green grass filling the space between, I think the Bushytails must have congratulated themselves upon a well-chosen abode.

Mr. Bushytail displayed his satisfaction and good spirits by many a rollicking tear—tail in air like a banner—over the housetop and into the maple trees bordering the street, where he gave free acrobatic performances to the delight of all children and grown ups who happened by. Offerings of chestnuts and other edibles were placed in the maples for him; and after once catching a glimpse of his inquisitive little nose thrust against the screen of my chamber window I kept a "quick lunch" always at his disposal on the window sill.

Mrs. Bushytail seldom accompanied her husband on these revels. I understood her preference for seclusion later when I chanced one morning to see her leaving home for a brief airing, wafting backward as she went many sharp admonitions toward the knot where her husband sat, jaunty and self-sufficient, ostensibly keeping guard (out in what a hap-hazard, irresponsible manner any mother will understand) over three tiny balls of reddish fur which seemed to show a terrifying tendency to come tumbling from their nest.

Carrying such a burden of anxiety with her, it was hardly to be expected that Mrs. Bushytail would greatly enjoy her outing; but whatever pleasant anticipations she may have had were speedily crushed. Hardly had she taken her harassed and preoccupied way as far as the roof corner, and thence by an easy drop into the young walnut tree in my yard, when behold, there on the ground below was Muggins, the petted Maltese aristocrat living across the street, who possessed on this particular day an unmistakable hankering for a game dinner.

Madam B. may have been chronically nervous; indeed I could not doubt the fact when I noted the scraggy appearance of her once luxuriant tail, which looked as if it might have served lately as a teething appliance for the babies. I presume, too, that Muggins was injudicious in his remarks as he stretched his forelegs along the trunk and prepared to ascend; but whatever her provocation, Mrs. Bushytail, clutching ungracefully but determinedly at a slender limb, sent forth such a startling volley of shrill abuse that Muggins paused, dazed and horrified, and when I joined forces from the back porch, waving my dish towel and crying "Scat!" he withdrew in dignified disgust, his expression saying plainly that two such vituperative females in one community was a disgrace to the nation.

Muggins was not the only dispoiler of the neighborhood's peace. Patsy, the Hope Hose Company's mascot, frequently came darting through the alley from the engine house, his black nose and mottled sides eloquent of sporting proclivities inherited from a Scotch-Irish ancestry. I sometimes witnessed the battles of intrigue which followed, for I believe the hostilities never went so far as actual combat. The head of the Bushytail family seemed to consider Patsy a foeman worthy of his steel and rather to enjoy their encounters than otherwise. Instead of ignoring the intruder utterly, as was his treatment of Muggins, and permitting his consort to rout the enemy in her own strictly feminine way, the husband and father immediately became alert when one sharp, challenging bark announced the dog's arrival upon the scene. Then, quite regardless of his wife's entreaties, Mr. Bushytail would deliberately descend, making exasperating feints meanwhile as if a sudden sickness had seized him and he was about to drop into that eager, open mouth below, and having settled himself comfortably upon a forked limb tantalizingly close to Patsy's vision would proceed to argue the case. Patsy could not have been a good logician, for "Brer Squirrel" always came out ahead, even though Patsy might thrash his tail about in

frenzy and dance on his hind feet, barking in hoarse desperation, till the voice of "Hoofie," the driver, recalled him to his post of duty.

The young Bushytails partook of their parents' intrepid qualities and at an early age began to scamper—sleek, glossy brown bits—about the adjacent roofs and trees. I can well believe that they were instructed by their cautious mother never to alight upon the ground, but one of them must have disobeyed, for a boy just over the sweet pea border found it gaily exploring his rabbit pen, and easily caught it in his hand. The little creature, liking the boy's warm clasp, declined at first to be freed, and came back, with a confiding flirt of its big round tail, to nestle against the lad's coat till replaced in its paternal tree.

It was not always mere curiosity that led the baby rodents to go a-visiting. They had a fondness for the hard, red apples which the gnarled old tree throws lavishly every summer onto my side of the low stone wall near which it stands. On its own side the apples all fall upon the ground, where Muggins or Patsy may stray at any moment; but did not a kindly Providence expressly provide our grape harbor as a banquet table for hungry but inexperienced little wood folk? Here Master Bushytail—which particular one I never knew at any time—would sit, serenely furling his splendid canopy over his back, and holding an apple twice as large as his head, would roll it dexterously round and round in his paws, paring off the red skin with his sharp little incisors before he began eating the pulp. When his appetite was satisfied he would tuck the apple away into a safe nook and next day would come back and nibble at it again.

Something besides present joys had to be thought of, however, as the fall days crept on, and the elder Bushytails at least were fully alive to their responsibilities. However early I might look from my bedroom window, they were sure to be up before me, scampering back and forth in the sunshine or flirting the rain drops from their fur as the case might be, but always busy at work;

and one by one the walnuts vanished from the ambitious young tree in our back yard, till it was left with only a few brown, uncertain leaves to flutter defiance at the autumn winds.

These winds came soon after, bringing with them snow, and my friends the Bushytails disappeared. I supposed them snug in their tree-hollow, and sometimes wondered if the rigors of our "old-fashioned winter" would not reach them even there. My sympathy was quite wasted, as I learned in due time. One day, sitting in the broad-gabled house next door to my own, I heard strange noises in the walls; a rumbling that reminded me of the game of nine-pins in "Rip Van Winkle" and now and then a cracking sound which suggested insecure rafters. I was then informed that the cheeky little woodsmen had so heartily approved civilization that they had abandoned their tree in favor of the dwelling house. A branch of the big butternut, pressing itself conveniently against a broken pane of the attic window, had presumably been their means of ingress, and for provender—

not only had their own supply been safely stored within various crannies of the walls (whence the rumbling and cracking issued) but a bushel of nuts which had been drying on the attic floor had also gone to fill a secret larder. The little lady of the gabled house and her big kind-hearted lord were fortunately not averse to furry lodgers, but laughed appreciatively as they told of the feather-bed laid away under the eaves for safe keeping, from which, upon a sudden disturbance, would pop in quick succession five little round heads set with beady black eyes.

Thus the Bushytail family lived in luxury throughout the long winter proving the wisdom of the couple in "moving into town." What has become of the young Bushytails now that spring is here is a question which puzzles me; for though the parents are whisking about as usual, the youngsters are not to be seen. I have a suspicion that they have gone courting, perhaps to the land of their forefathers, like Jacob of old, and I shall be on the lookout for bridal pairs all summer.

ALICE CRITTENDEN DERBY.

MORNING.

Streams of light illumine the east,
Heralding the sun;
And twinkling stars in thousands fade
In giving place to one.

The dew drops pendant on the leaves
In myriads untold,
Pay to the sun in generous wealth
Their silver for his gold.

The rosy morn adds greater charms
To nature's verdant bowers,
Illumes the sky with golden glow,
And decks the trembling flowers.

The air is full of scents and songs
From birds and blossoms gay,
And everything with joy combines
To usher in the day.

—GEORGE GEE.



INDIGO BUNTING.
(*Passerina cyanea*).
About Life-size.

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THE INDIGO BUNTING OR INDIGO-BIRD.

(*Passerina cyanea.*)

Throughout the United States, east of Kansas and from New Brunswick and southern Canada southward, the home of the Indigo-bird is among the bushes of the wayside, in clearings, in briar patches and along the borders of thickets. It is in such places that we must seek this bright little bird and it is not hard to find. He will identify himself both by color and song, but she, a plain and demure brown bird skulking through the bushes, needs an introduction. The novice can hardly believe that she is the mate of the beautiful bird which, dressed in a bright indigo plumage, sings a blithesome melody from a conspicuous perch on the tree top. Though the Indigos belong to the sparrow family, she seems much more sparrow-like than does her mate. Examine her plumage closely, however, and it will be found that her back is unstreaked and that, as a rule, she has a tinge of the blue of her mate on the outer webs of her wings, on her shoulders, and on her tail feathers. It is very fortunate that the mother birds whose mates are so ornately plumaged, are dressed in somber colors in harmony with their environment as they sit upon their nests. The mother Indigo has no "tell-tale feathers to attract the eye." While the female Indigo is suspicious at all times, she and her mate are at times attracted to the shrubbery of gardens. When in the vicinity of their nest, an observer will soon realize that each step he takes is protested by a female Indigo which frequently utters a most vigorous *cheep* accompanied by a nervous twitching of the tail. Indeed her protesting voice is so emphatic as she flies around and before the intruder, that he is often led far from the position of her nest.

In fact, the nests of the Indigos are not easily located.

The nests of the Indigo Buntings are usually built in a low bush, often not more than a foot above the ground. Sometimes they are placed in large herbaceous plants such as the joe-pye. When built in a bush, they are usually placed in a crotch, but sometimes they are merely hung from the branches of herbs with but little, if any, support underneath. The borders of cultivated fields adjoining open woods and the shrubbery along railroads furnish desirable home-sites in the judgment of these charming birds. One would expect that such a delicate bird would construct a small and trim little nest. But this is not the case. The nest, the external wall of which consists of small stems, pieces of dead leaves, strips of fibrous bark, rootlets, and grasses, is usually quite bulky. It is lined with fine grasses, hair and downy seeds.

During the period of incubation, while the demure female is closely sitting upon her eggs in the nest hidden in the bushes below, her mate finds time for cherry song from a conspicuous perch on a tree-top or a telegraph wire. The growing family cares do not seem to reduce the exuberance of spirit that controls his being and his voice becomes stronger, more persistent and more ringing. Frequently he visits his mate upon the nest, but in doing so, he pursues such an erratic course that it is very difficult to follow him and he seldom reveals the situation of his nest. He assists in the labor of feeding the young, but even then, he finds time between journeys for food, to sing from a chosen perch. He sings the greater part of the day. The warm sunshine

is an inspiration and he will sing through the hot summer noontime and his song seems at its best during the months of July and August. As he mounts to his song perch at the tree-top, he flits from branch to branch singing as he rises. When he reaches the top of this "staircase of song" he sings a vigorous and melodious melody. At first the song is loud and the notes are rapidly uttered forming a melodious warble, but it grows fainter and weaker until it closes as if the bird were out of breath. Florence A. Merriam has so

well expressed the song habits of the Indigo that we quote her words: "I well remember watching one Indigo-bird who, day after day, used to fly to the lowest limb of a tree and sing his way up from branch to branch, bursting into jubilant song when he reached the topmost bough. I watched him climb as high into the air as he could, when, against a background of blue sky and rolling white clouds, the blessed little songster broke out into the blith-est round that ever bubbled up from a glad heart."

THE FOREST AT MIDNIGHT.

I had become acquainted with my forest in many of its moods and seasons. I had stood amid its naked trunks when the fierce blizzards of winter swayed the rigid trunks, and the branches creaked and groaned as if in agony. I had traveled its recesses when the gently falling snow made of every tree an enchanted bower, and every bush a thing of exquisite beauty. I had seen it decked in glittering ice, when every twig and branch was weighed down with sparkling pendants, every sapling bent low, and every clump of bushes a mass of dazzling splendor. I had wandered through its carpeted temples when the beams of the spring time sun had quickened into active life and bloom the delicate claytonia, the pale cardamine, the fair anemone, the purple and the yellow violets, and all the varied pleasing bloom of the early spring-time. I had walked in its grateful shade when the summer sun and the rains had developed its leaves into a thick canopy that cast a twilight shade even at noonday. I had watched the deepening and brightening colors of its foliage as it ripened with the season, and had reveled in the richness of their dyes of green and gold,

purple, bronze and flame. I had rambled again under naked boughs when the fallen leaves lay thick upon the ground and rustled loudly at every step, and, alas! I had stood mute and stricken when the fierce conflagration had swept with its breath of destruction through it and left it seared and blackened. With awe I had watched the vivid lightning shine among the trees, and listened to the echoing thunder and roaring wind and beating rain, making of it a pandemonium. I had silently stood within its fastness and watched the coming of the day and the awakening of its denizens. I had visited it in the gathering of the twilight and with eye and ear learned how the forest and its people go to rest. I had learned many of its secrets, and received great lessons from its teaching, but I was not yet satisfied. I must even invade the sacredness of its sleeping hours and learn the lesson of its slumber.

The summer was yet young, the June roses were not all faded, and the yellow lilies were beginning to show their flame. The chill of the springtime air had been tempered by the summer sun till shade was a condition to be coveted.

The round moon peered over the eastern rim of the valley, and caught a glimpse of the brazen sun as it disappeared behind the western hills.

Here now was the time ripe for my visit to the sleeping forest. The twilight was tempered by the rising moon, and the voices of the night were displacing those of the day. A gentle south wind stirred the myriad leaves, and pliant twigs, and swayed them slowly back and forth, and a low murmuring sound came from everywhere and nowhere. The chirping of the crickets sounded shrill and sharp in the greater stillness. Off in the dense wood was heard the mournful call or song of the whip-poor-will, while at times, up in the air somewhere, a screech owl gave forth its shuddering loon-like cry. Nature is getting drowsy, so it is time for me to make my call on the forest.

As I stepped out of the door and strolled across the lawn, the full moon looked down, and the shadows of the trees were circumscribed by the expanse of their branches. The silvery light lay white on the grass like a counterpane. I reached the wood and entered along the narrow road; the branches on either hand interlocked overhead, and it was like entering a darkened room. Soon the eye became accustomed to the darkness, and the form of shrub and tree become defined. Triangular, and square, and round, and irregular shapes of moonlight danced and flitted among the undergrowth as the breeze stirred the branches, and gave one a peculiar sensation as he watched them move about so silently and irrationally. Here and there an opening lets in a flood of moonlight, making by contrast a deeper shade of the adjacent gloom. Color is lost in the night and only moonlight and shadows are present. The odors of flowers and leaves, of mould and decaying wood, blend into an undefined fragrance, nowhere else found but in the forest, and at no time so pronounced as at night. And sounds! The voices of the night—for there are voices of the night—are different and distinct from those of the day. The medley of bird song is hushed, the lowing of the kine, the neighing of the horse, the bleating

of the sheep and the vociferous call of the swine, along with the hum of industry that fills the day and penetrates even into the solitude of the forest is hushed, and a deep, a solemn silence pervades the wood.

At length I reached the coveted spot, and took a seat on an inviting stump. The gentle breeze that lightly moved the leaves as I entered the wood, had entirely died away. The sky became thinly overcast by drifting clouds broken by many rifts through which the moonbeams shone, and then were shut off as the clouds drifted past, throwing the forest into alternate light and darkness. In the darkness flashed and glowed many fire flies, while numerous moths flitted aimlessly about, showing dazzling white in the moonlight; but all were on silent wings and the occasional bats wheeling among the branches were as silent as they. Not a sound of animated life was heard. Long time, silent as the night, and motionless as the trees I sat there and pondered, and let that awe-inspiring stillness permeate my being. But not for an instant was there silence as we define silence,—the absence of sound,—for on every hand, along the ground, amid the bushes and trunks of the trees, and in their branches were there undefined and intangible sounds, low murmurings, faint rustlings, quiet droppings, and half audible whisperings. The awful stillness was vocal with sounds. What were they? They were the spirit of life, which is the spirit of God, moving in the forest, and acting its pleasure, on tree and shrub, and every mute form in all that forest wilderness,—the spirit of life which had brought up that giant forest from the tiny seed, that had clothed the towering trees with renewing foliage, that had carpeted the mould with vegetation and peopled the recesses of the wood with unnumbered and varying forms, each fitted to its place and all making an harmonious whole. It was a solemn place, it was a solemn hour, and my soul was filled with the profound solemnity of it all, and I thought as I retraced that shaded aisle, that this, my last visit to my loved forest was best of all.

L. O. MOSHER.

THE CHICKADEE.

(*Parus atricapillus.*)

The little Blackcap, chirping at my door,
And then saluting with thy gentle song
Or lonely whistle my attentive ear
A hearty welcome would I give thee,
Thou teacher blest of quietness and peace;
Sweet minister of love, for hearts awake
To the rare minstrelsy of field and wood.

—Anonymous, "The Chickadee."

There are few birds which exhibit a greater fondness for companionship or a deeper confidence in man than does the Chickadee, or Black-capped Titmouse as it is frequently called. It is, perhaps, the tamest wild bird of our timbered areas. While it prefers the forest, it does not, however, shun the trees of our dooryards. Especially is this true during the more severe weather of fall and winter. Rain, snow and tempest do not seem to ruffle the cheerful temperament of the Chickadee. Its happy nature is voiced during storms, as well as in the sunshine, by its pleasing call *chickadee-dee-dee-dee*. Meeting this friendly and inquisitive little bird on a winter's ramble through the woods, calls to mind the lines of Mr. Emerson:

Piped a tiny voice nearby,
Gay and polite, a cheerful cry—
Chick-chickadee. Saucy note
Out of sound heart and merry throat,
As if it said, "Good-day, good Sir!
Fine afternoon, old passenger!
Happy to meet you in these places
Where January brings few faces."

Few things in nature are more cheering in the winter than the gay and ever contented Chickadee whose voice and bright actions lead us from the depressing influence of the long winter season. Mr. Langille has used well chosen words in his description of the Chickadee. He says: "So brimful of contentment, so sweet-spirited and confiding, with so much of the sunshine of

hope in their voices, that they are a most significant reproof to querulous, unsatisfied human nature." At all times the bright eyes of these little birds seem to shine with contentment. In many instances their confidence in man has been shown by the birds alighting on his shoulder or arm. When their cunning little offspring are held and quietly fondled in the hand, the mother bird has been known to perch upon the hand of the observer and feed the little one.

The Chickadee, whose range quite covers eastern North America north of the valleys of the Potomac and Ohio Rivers, is not a strictly migratory bird, though it passes somewhat south of its breeding range during the winter. It has a roving disposition and, to a certain extent, is erratic in its appearance in many localities. Like the other members of the family of nuthatches and titmice, the Chickadee is a climber, but it differs from the woodpeckers and creepers in that it climbs downward with as much ease as it does upward. It is a busy bird, always hunting for its prey. Hopping upward, downward or sideways upon the trunk or branches of a tree, or hanging upon a twig head downward, it diligently and closely scans every crevice in the bark, and the under sides of the leaves. The services of few, if of any other birds, are more valuable to man in his warfare against the ravages of injurious insects. These diminutive birds hunt for the hidden larvae and eggs of insects and eat large



CHICKADEE.
(*Parus atricapillus*).
About Life-size.

quantities of them. The investigations of Professor Forbes show that in an orchard which is infested with the destructive canker-worm, these larvae form fully seventy-five per cent of the Chickadee's food. It not only destroys the canker-worm but also its eggs which are laid in patches and are glued to the surface of the bark. One entomologist has calculated that a Chickadee will destroy over five thousand of these eggs in a day. It also eats many other insects, and when such food is not obtainable it will feed upon seeds and gleanings from our door-yards.

The nests of the Chickadees are placed either in a hole excavated by themselves, a natural hole or one which has been deserted by woodpeckers. The nesting holes are usually in the trunks of trees and seldom higher than fifteen feet above the ground. When they excavate the holes themselves, trees more or less decayed are usually chosen

and they seem to be partial to the trunks of the white birch. They will also nest in holes in fence posts and in stumps, and they have been known to excavate in the green wood of tree trunks. The nest hole is well lined with considerable moss, wool, feathers, bark fiber, animal hairs, and plant down.

Besides the well known notes which have given the Chickadee its name, this forest acrobat has notes which express displeasure and when a flock is feeding it frequently utters a faint *tsip*. During the mating and breeding season the Chickadees are inclined to seek the seclusion of the forest and even avoid the society of their fellows. It is then that its sweetest song is heard, the notes of which are clear and soft. This song is a plaintive minor whistle uttered in two syllables, the first of which is high and clear, and the second is more feeble and ends in a plaint.

A GLIMPSE OF THE FERNS.

Of all the nature studies, ferns have been the most fascinating to me. The birds and their homes, the trees, the flowers, the moths and butterflies, the shells and minerals have all been and are still a delight, but for solid pleasure the ferns surpass them all.

It was interesting to learn that ferns do not grow from the seeds as do flowering plants, but that when the parent plant attains maturity the spores, or seed-like bodies, are expelled from their cases and coming in contact with the moist earth form a filmy green membrane, called a prothallus, which bears on the under surface the two organs answering to the stamens and pistils of flowers, called respectively the atheridia and archegonia. Water is necessary for the fertilization. When

this is accomplished a tiny fern plant at once springs up, and is fed by the prothallus until old enough to receive its nourishment from mother earth. Then the prothallus dies, leaving a little fern plant very unlike its parent. It was a happy day when I first found the little green membranes and taking them home watched the growth of the fern.

In gathering ferns the first that came to my notice were the Osmundas, the Royal and the Cinnamon. All were growing very luxuriantly by a river bank and fruited early in the summer. How often I have pulled up the early little plants of the Cinnamon Fern and found in the dainty plant all the little downy fronds carefully folded within. At that time I used to call all Ferns "brakes," as many people will insist on doing to the end of their days. I shall never

forget the persistency of a dear old farmer on that point. We had heard that the beautiful Wood Fern, *Aspidum goldieanum* had been found on a mountain some twelve or fifteen miles distant, and of course we could not rest until we had explored that mountain. After a beautiful drive we stopped, at the very foot of the mountain, at a farm-house, and asked for permission to put our horse in the barn, while we explored the mountain. The good people of the farm were very hospitable and asked us what we were looking for. Upon our description of the largest New England fern, we were assured that quantities of "them brakes" grew just across the brook. Taking a shovel, the farmer immediately started to get us all we wished, but he soon returned with the common Cinnamon Fern. As we labored to explain the difference he interrupted with, "Oh, yes! I know, you mean hog brakes, the pasture is full of them," but they proved to be the Eagle Fern, *Pteris aquilina*. On the mountain we found the Broad Beech, *Phegopteris hexagonoptera*, the dear little Trichomanes, *Asplenium trichomanes*, and *Asplenium ebeneum*, two of our daintiest ferns, growing on rocks, especially in the crevices. We also found the Walking Fern, *Camptosorus rhizophyllus*, just covering a large rock. We thought that a red-letter day in our fern hunting. The Woodsias, too, were there, both *Woodsia obtusa* and *Woodsia ilvensis*. All of these were new finds for us, and upon our return to the farm-house with our baskets filled, we displayed them to our hospitable friend only to hear him say, "O, yes, they are all brakes. I have found those brakes growing in our well." All of our knowledge of the long scientific names had not the least effect on that man. I doubt not that to this day he, with his good wife, wonder why we took a ride of twenty-five miles in order to obtain a basket of "brakes."

I went down to a point on our river bank with a party of little people to find the Ostrich Fern, *Onoclea struthiopteris*, and they led me to a little swampy place where they grew to a height of over three feet. The long plumes were

magnificent and the children played hide and seek among them. Never had I found such luxuriant growth of our ferns. The sensitive fern, *Onoclea sensibilis*, while abundant in many localities, reaches its greatest growth in damp, shaded places.

A walk of six miles to a mountain lake gave us a grand chance to see the several species of Wood Ferns, belonging to the genus *Aspidium*. We also saw beautiful communities of the *Polypody*, *Polypodium vulgare*, as they covered immense rocks with their bright green fronds which bore large, round, white spore cases on their backs. There were large patches of the Beech Fern, *Phegopteris polypodioides*, and we found the dainty little Oak fern, *Phegopteris dryopteris*. I wonder that I had never noticed these beautiful ferns until I began to study them. On this walk we passed many knolls just covered with the Hay-scented Fern, *Dicksonia pilosiuscula*, and the Lady Fern, *Asplenium filix-foemina*.

I can never quite forget the shout that was heard when we found our first Adder's-tongue, *Ophioglossum vulgatum*, in the sphagnum swamp, surrounded by the blue-fringed gentians. We found the dainty Maidenhair, *Adiantum pedatum*, on most of our walks, and it was always beautiful. We had thought the Climbing Fern, *Lygodium palmatum*, was not to be found in New Hampshire, and unless one is a lover of ferns, he can never realize our delight as we found and gathered our hands full of the dainty plant, which is one of our most exquisite ferns. We brought home roots of all our ferns and planted them about our homes or in pots. But, removed from their original haunts, they lose a great share of their beauty.

Should I never again see the ferns of New England, I cannot forget the grand and beautiful views that memory holds of the ferns in their haunts, and my summer with the ferns will be a bright spot that I will never tire recalling. I had often been told that ferns were a difficult study, but I found them delightful, and now as I meet them, they all seem like old acquaintances.

REST H. METCALF.



THE WOOD THRUSH.

(*Turdus mustelinus*)

Mr. Chapman has beautifully expressed the character of this woodland songster. He says: "The Wood Thrush is a lovable bird, with a voice suited to his gentle disposition. * * * His calm, restful song rings through the woods like a hymn of praise rising pure and clear from a thankful heart. It is a message of hope and good cheer in the morning, a benediction at the close of day." Who, that has heard the song of the Wood Thrush, can fail to desire a more intimate acquaintance with "God's out-of-doors." Its "flutelike opening notes are an invitation to his haunts; a call from Nature to yield ourselves to the ennobling influences of the forest." *Come to me*, he sings in tenor notes of wonderful sweetness. The exquisite quality of the tone of his song cannot be described by words, it must be heard. It has been called a "Symphony in Nature," but its character is much more than that of a tone poem. Hearing such a song, wafted on the air, one cannot fail to witness "The gladness of Nature" and say with Mr. Bryant:

There's a dance of leaves in that aspen bower,
There's a titter of winds in that beachen tree,
There's a smile on the fruit, and a smile on the flower,
And a laugh from the brook that runs to the sea.

There is a richness, a depth of inspiration, a pure melodious quality in the liquid notes of the Wood Thrush's song that is indescribably fascinating. Mr. Wilson speaks of the "prelude, or symphony" of its song as strongly resembling "the double-tonguing of a German flute, and sometimes the tinkling of a small bell; the whole song consists of five or six parts, the last note of each of which is in such a tone as to leave the conclusion evidently suspended; the finale is finely managed, and with such charming effect as to

soothe and tranquilize the mind, and to seem sweeter and mellower at each successive repetition." It seems strange indeed that while this beautiful bird and its entrancing song have appealed to the writers of prose they have not inspired, at least to any great extent, verse from the pens of our greater poets.

While the Wood Thrush is by Nature a woodland bird, it will also frequent the shaded lawns, avenues and parks of our cities and towns. This is especially true during its migrations. If we may so speak of bird life, this gentle bird shows high breeding. It is royally graceful in every motion, and even its confidence in the good will of man is expressed by a quiet dignity and watchfulness. It sometimes seems unconscious of our presence but if the observer becomes too bold it is ever ready to fly to the protecting shelter of trees. Its daintiness is even shown when it is feeding. An observer has said: "A wriggling beetle is eaten as daintily as caviare at the king's table." The only time that the Wood Thrush seems at all spiteful or excited is when its nest is approached too closely. Then its anxiety is expressed by the sharply uttered and rapidly repeated notes *pit, pit, pit, pit*, the sound of which has been likened to the striking of pebbles together. But even in its excited moments, this bird does not lack in dignity and grace. Approach the Wood Thrush in its forest retreats and it will use the same note as a quiet call of inquiry, or possibly of greeting, as it comes toward you.

While the range of the Wood Thrush covers nearly the whole of the United States east of the Great Plains, it is altogether too true that its admirable habits and character are known to but few persons other than those who are close students of bird-life. Its song may be familiar as one of a woodland

songster, but it is not associated with the bird. This need not be the case, for it may be studied in the wooded parks and lawns of cities and towns. There it may warble its "silvery phrases," and there it has even been known to nest in quiet neighborhoods. It must be remembered, however, that while it may lose some of its woodland shyness, it has a solitary disposition and will not permit unseemly approach or boisterousness in its presence.

The Wood Thrushes breed from Virginia, Kentucky and Kansas northward to Vermont, Ontario and Minnesota, and they winter in Central America and Cuba. Their nests are usually placed on a nearly horizontal branch, or in a crotch of a sapling from five to fifteen feet above the ground. The bulky nests are quite similar to those of the robins but are slightly deeper. They are made of dead leaves, twigs, weed-stalks, small roots, paper, rags and other suitable trash which may be at hand. These materials are well interwoven and the cavity is carefully plastered with mud and lined with fine rootlets. It is said that a well located nest may be occupied for several years, being repaired each season. Mr. Burroughs has said: "Our thrushes are all frank, open-mannered birds," and

our Wood Thrush "builds as openly and unsuspectingly as if it thought the whole world as honest as itself." There is no doubt that in many localities this Thrush suffers more from the depredations of crows, jays, squirrels and other enemies than any other bird. Throughout its nesting range, however, probably the worst obstacle to its increase is the imposition of the piratical cowbird. It is unfortunate that the Thrushes so quietly submit to the duty of brooding these parasites. Perhaps they are easily deluded, or possibly they patiently submit to what seems to them inevitable conditions imposed by Nature. The care of the young, vigorous cowbirds would probably demand a large part of the attention of the faithful parent birds and their true offspring would necessarily suffer. The Wood Thrushes should be protected and their nesting in his vicinity encouraged by the farmer and gardener. This has been proven by the investigation of Dr. S. A. Forbes who has found that they do more good and less harm, by eating a larger number of insects and less fruit, than the robin, catbird and brown thrasher. Then, too, in addition to the good they may do to our crops, we may also listen to the unrivaled voice of these songsters.

FOR THY HEART'S HEALING.

Stay here awhile!

The buds in plentitude

Give joyous promise. Through the fresh green wood

The winds are straying, where dark Sorrow stood.

In ashen garments, her gown's hem with teardrops wet,

Spring, from her gathered apron spills the violet,

And lights the broad earth with her winsome smile.

Stay then, and listen to the robin's call,

Or by the gray shrine of some low stone wall,

O'er which the red-winged blackbirds curve and cry,

Keep Nature tryst, and let the world go by!

—MRS. CORA A. MATSON DOLSON.

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