STORIES OF BIRD LIFE

BY T. GILBERT PEARSON

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AMERICAN SPARROW-HAWK.

STORIES OF BIRD LIFE

. . . BY . . .

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WITH ILLUSTRATIONS BY AND UNDER THE SUPERVISION

. . . OF . . .

JOHN L. RIDGWAY

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PREFACE

My purpose in writing these stories and sketches of birds has been that I might make others acquainted with the ways of some of the wild birds which have been of so much interest to me. Should they serve to give the reader a little more intimate acquaintance with our feathered neighbors of the field and woodland, my main object will have been accomplished.

These stories are not fanciful, but are true to bird life. The Arredondo Sparrow Hawk, Ruffle-Breast and Socrates were particular birds well known to others as to me. In the case of the Bob-white family, and Bib-neck, the Plover, I have combined into the lives of a few birds incidents I have known to occur to many. The accounts of visits to birds' nests, bird colonies and the like are given as they occurred. In the Appendixes some suggestions are offered to the student and the teacher.

Several of these articles have been printed in the North Carolina Journal of Education and elsewhere. One of them, "The Childhood of Bib-Neck," is inserted by the kindness of the St. Nicholas Magazine.

In the preparation of this book I wish to acknowledge my obligations to Mr. Robert L. Ridgway, Curator of Ornithology in the Smithsonian Institute, for his critical reading of the manuscript; to Mr. John L. Ridgway for preparing the excellent designs for the eight full page plates and forty-five of the other illustrations; to Miss Elsie Weatherly for drawing twenty-seven of the text figures; and to a number of other friends who have aided and encouraged me in many ways.

T. GILBERT PEARSON.

Greensboro, N. C., *October 1, 1901.*

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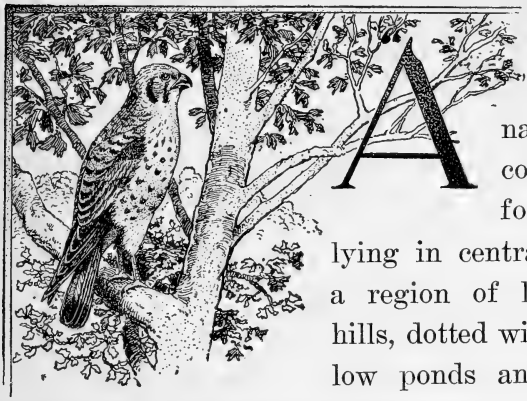
THE ARREDONDO SPARROW HAWK



"ARREDONDO GRANT" is the name of a tract of country of perhaps forty thousand acres, lying in central Florida. It is a region of low, rolling sand hills, dotted with numerous shallow ponds and thinly clad in forests of yellow pine. Many small farms and orange groves add variety to the landscape. The origin of the name dates back to the time when the Spaniards ruled the country and General Arredondo received the territory for services to the Spanish government.

The variety of bird life here is not great, but the species which occur are generally represented by many individuals. One of the most common is the little American sparrow hawk, which remains throughout the seasons. It is the smallest of the falcons. Seldom have I seen a bird which aroused in me a keener interest or deeper sympathy than did one of these sparrow hawks, whose path of life for some years ran parallel with my own.

To distinguish him from another hawk which lived to the westward outside of the Grant, I called our hero the Arredondo sparrow hawk. Later, when I learned to know him well, I named him Dick.

The first time I remember to have seen Dick was on a clear balmy morning in middle January while the last of the orange pickers were going about their work. He came out of the woods flying high and going as though an eagle were after him. Over the orange grove he swiftly passed and turning slightly to the left flew toward a tall lightning-stricken pine standing at the edge of the rice field. "*Tilly-tilly-tilly-tilly!*" he cried as he swept along. Over and over he repeated his call, until, slacking his speed with quivering wings, he settled on the lifeless pine.

Not all birds have mates. There are many single females and many wifeless males. There are widows and widowers, and often many little orphans are left in the world. But old Dick was none of these, for down in the pines was the prettiest, dearest little sweetheart for which a sparrow hawk ever sighed. True, she was slightly heavier than he, and her wings were broader and her waist was fully as large, but these things only added to her attractiveness, and besides, she was his mate, and he loved her as only a blue-winged, striped-cheeked sparrow hawk can love.

A bird has three main purposes in life. First, to secure

food for its existence; second, to avoid its enemies; and third, to rear its offspring. In studying the history of any bird one learns the details of these three phases of its life. With many birds this is difficult to do. Some are very timid, and conceal themselves in the grass and shrubbery. The homes of a few are in almost inaccessible swamps. Still others live far away on the rolling ocean, and are seen only by mariners and travelers.

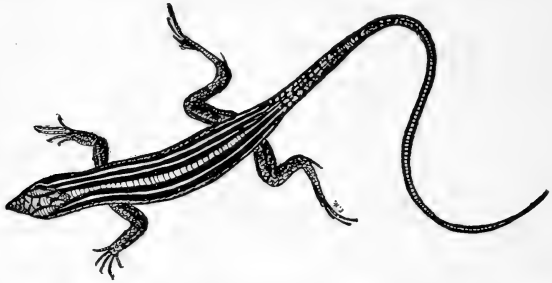
Not so with the sparrow hawks. In almost any locality in the United States they may be found, although their numbers are greater as one travels southward. Nor do they hide from sight. Their perch is usually some tall stake or tree; their food is caught in the open; their pathways of travel are in full view through the boundless sky.

Scarcely a day passed that I did not see Dick. He came repeatedly to his perch on the dead pine and called, until one day his mate joined him. At once he launched into the air, and for her pleasure began a series of elaborate circles and evolutions. The open space of the field was his parade ground, the top of the blasted pine was her grand stand.

At times he flew slowly, and again with high speed, now skimming low, now soaring high above the earth. Far out over the rice field and grove he went, then turning, came hurrying back through the air, flying to his mate, calling

to the love of his youth, his blood leaping high with the ecstacy of spring time. How he strove to please her by flashing his pretty feathers in the sunlight! How delighted he was if she deigned to accept any article of food which he had to offer!

Two hundred yards in the woods stood an old blackened and broken pine with its head reaching forty feet from the ground. At some distant date, now far out of mind,



a flicker had chiseled a hole near its top for her nest. The owner used it probably only for a single year. Since then it had become the habitation of the Arredondo sparrow hawk and his mate.

One day I saw Dick fly up to the nest with a lizard in his mouth. He entered, and from its dimly lighted depths issued a strange, low sound,—at that time a new call to me, and one which I have seldom heard since, save in the neighborhood of the nest. A moment later his head appeared at the opening, and the strange love call was re-

peated. Evidently it was an invitation for her to come and see what a nice home was that hollow in the tree, and incidentally, to have something good to eat.

On the tenth of April the nest held four beautiful eggs, blotched and spotted with varying shades of brown and chocolate. A boy promptly climbed the pine and took the eggs. On the twenty-ninth of April five more were added to the boy's collection. Undismayed, the parents still clung to their old home and nineteen days later there was still another set of four eggs in the nest. But the Arredondo sparrow hawk was destined to rear no young that year, for the third time the tree was climbed and the nest rifled. After this the birds gave up the attempt and no more eggs were laid that spring.

The next year they were more fortunate. The boy who had had a mania for robbing nests had learned better. Four young sparrow hawks were reared with much care and great labor. In the autumn the young males went through the maneuvers of love making. They circled about the sky, clamoring in a noisy manner; one of them even went so far as to cling to the side of a tree and look into an old woodpecker's nest and try his voice on the low love call. This was just playing at love making, however—a harmless sort of flirtation before the summer

season was quite gone. Swallows and others have been seen to engage in similar diversions.

It sometimes occurred that a large hawk would come to the farm near by and take a chicken. As a preventive against such raids the farmer planted near his chicken yard some tall poles. On cross pieces near the top of these he tied a number of gourds, in each of which a round entrance hole had been cut. This was a standing invitation to purple martins, who read by the sign that here were rooms to let. So it happened that each season several pairs made these gourds their homes.

Martins keep a sharp lookout for hawks. I often noticed, however, that the sparrow hawk or his mate discovered the presence of the chicken killer before the martins, and by their loud cries and bold attacks quickly drove it from the neighborhood.

One cloudy summer afternoon a great horned owl came out of the big woods and alighted on a pine near the farm. Now, most birds dislike the larger hawks because they sometimes catch small birds; they have little relish for the crow, for he has been known to steal eggs; but they hate, literally *hate* and dread an owl. His dark deeds are done under cover of the midnight shadows when all are asleep. Like a thief in the night, he descends upon the uncon-

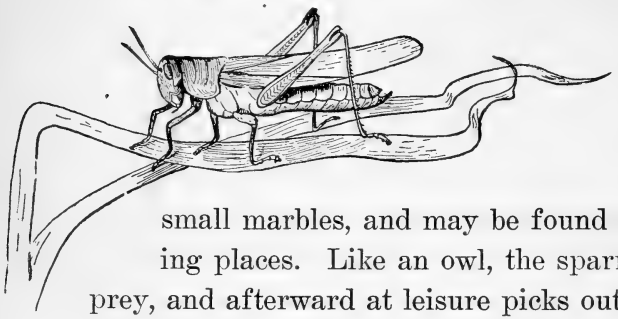
scious victim. Where is the feathered creature that loves an owl?

A red-headed woodpecker was the first to discover this big horned fellow, and his wrathful notes told at once of danger. Other birds were attracted by the noise, and came quickly to join their voices in a chorus of protests. Such a bedlam of sounds they made, as flying about the tree or hopping among the branches they heaped upon the unfortunate owl all the vile epithets they could command! There were a pair of mocking birds, a shrike and several blue jays; and a dozen martins added their cackling notes to the uproar.

High above all flew the Arredondo sparrow hawk. Suddenly he descended straight as an arrow at the head of the hated owl. The old rogue dodged the blow and soon turned his wing-beats toward the depths of the forest. Above him in the air hung the pair of sparrow hawks, who continued their pursuit, taking turns at striking down at him, for fully half a mile of his flight.

The food of the sparrow hawks consisted largely of grasshoppers, together with a sprinkling of beetles and crickets. I have seen them capture the little striped lizards common along the paths and highways of Florida. But first and last their fare is grasshoppers. Where they find them when cold weather comes would be hard to tell,

but find them they do, and in great numbers as well. Woe to the luckless grasshopper that lives in a field over which a sparrow hawk keeps watch!



The hard indigestible parts of the insects are disgorged in balls the size of small marbles, and may be found about their roosting places. Like an owl, the sparrow hawk eats its prey, and afterward at leisure picks out and discards the objectionable parts.

Unlike many other birds Dick and his mate associated together throughout the year. They roosted under the eaves of a public school building standing within the border of their domain. The male was ever distrustful of a man and knew to a nicety the range of a gun, for he always left his perch before an effective shooting distance was reached.

The female was very trustful. Would that she had known better the heart of man! One day a boy stealthily approached to within a few yards of where she sat and suddenly throwing a heavy stick, struck her to the ground. He quickly beat her into unconsciousness and after a look at her feathers threw her body down beside the path.

And there old Dick's mate lay in the sunshine until the ants, which soon swarmed over her, had consumed her flesh, and the feathers went dancing before the wind across the stubble of the rice field.

It has sometimes been claimed that eagles mate for life, and that if one of a pair is killed the surviving member will never mate again. The same has been said of swans and some other birds. I do not know if these things be true, but I do know that the Arredondo sparrow hawk, bereft of his companion, did not mate again during the three subsequent years in which I knew him.

He did not appear to miss his mate until the warm days of January came. Then the swelling buds and the soft winds from the Gulf began to sing weird, sweet strains in his ears. Out of the woods he came bounding one bright morning, and circled on strong wings about the orange grove. He called and signaled as he cleaved the air above the rice field in his graceful flight. But there was none to answer him, no bright eye to follow his movements on his aerial parade ground, for no fond spectator sat on the top of the dead pine tree.

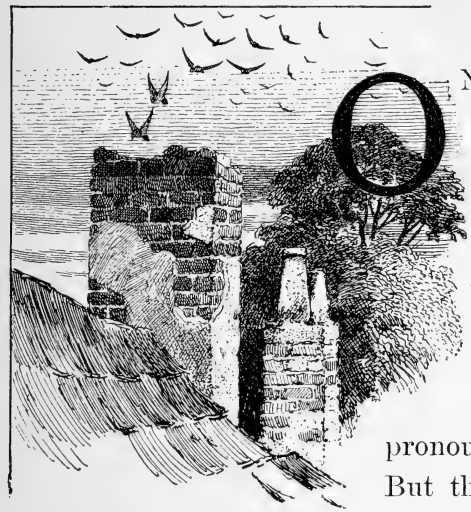
Day after day he came in vain to their trysting place. Day after day his yearning heart was unstilled, and his eager eyes sought through sky and field and forest his lost companion. One day with food in his beak he flew up to

the old nesting place, and in deep quiet tones gave the low love call so dear to his mate in other days.

For more than a fortnight the faithful bird sought his own, and then, yielding to despair, ceased to call, and the long, cheerless silence of a mateless life closed in upon him.

THOUGHT QUESTIONS

Are the males of all the birds you know colored differently from the females? Did you ever see a hawk on the ground; if so, did you see it walk? Do you think hawks walk much on the ground? Why? Does a hawk soar or flop its wings when flying, or does it do both? Does it catch its prey with its beak or with its claws? How many kinds of hawks can you name? Can you think of any enemies which a hawk might have besides men? How many kinds of creatures can you name that the sparrow hawk and other hawks will catch and eat?



ONE late summer's evening after the sun went down, there were observed flying above the tree-tops about the village a large number of black objects. Somebody said they were bats, while others pronounced them swallows. But they were neither. The swarm of dusky forms swinging rapidly about the sky was a flock of chimney swifts. They seemed to be more numerous in the neighborhood of a large college building. Presently they began circling in one rushing, revolving, twittering mass of bird life. One side of this living wheel passed directly over the large chimney which leads down to the furnace in the basement.

Suddenly, during those last moments of twilight before the darkness falls, one of the swifts threw up its wings and dropped out of sight into the chimney. Soon another

did the same, then another and another. They went in by pairs, by fours, almost by dozens. The wheel continued to revolve while a stream of birds, as if thrown off by a kind of centrifugal force, continued pouring down into the gaping mouth of darkness.

We stood and counted as best we could the numbers in this cataract of feathered life. Not for one moment was the scene changed until the play was at an end. "One thousand," I said. "One thousand and twenty-five," answered the gentleman with me, who had probably counted more correctly. Five or six birds which had hesitated to the last moment to take the plunge, and now possibly missed the moral support of the large company, gave up the idea of stopping there that night, and, turning, flew away into the falling darkness. Night closed in upon the great chimney with its sooty walls lined with an army of clinging, drowsy swifts; for this was the huge bedroom of these little pickaninnies of the air.

It was now seventeen minutes past seven o'clock. Less than twenty minutes had been required for the whole flock to enter. Since early morning each bird had been upon the wing, roaming the endless pathways of the air in quest of insect food. It is likely that not once during the day had one paused to rest, as the swift never trusts the weight of

its body to its weak feet except at such times as when in the hollow breast of a great tree, or down the yawning throat of a chimney, it can cling perpendicularly to the wall, braced from below by its tail, each feather of which ends in a stiff needle-like outgrowth.

In the early morning we hastened out to see if the swifts were up and away. Over the rim of the chimney we found them coming, singly, by twos, by threes, by fours; making long sweeps toward the earth with the first bound; then mounting high in the air with innumerable twitterings, they would be off for the day's experiences. At five minutes of six o'clock they ceased to appear. More than eight hundred had been counted within fifteen minutes. Something unexpected now happened. Back into the chimney came rushing the swifts. In ten minutes one hundred and sixteen had re-entered. What could it mean? Up from the east a dark, threatening cloud was moving. The swifts had espied it, and all those which by this time were not far afield came hurrying back to the chimney of refuge.

For many evenings we watched these birds. They always went to roost in the same way, going through the same performances. For more than two weeks they con-

tinued with us. One day near the middle of September, we saw from my window that the maple trees over on the hillside were turning yellow and red. "Autumn has come," said my friend. Perhaps the swifts saw the sign too and passed the word that summer had ended and the air would soon be free from insects.

That evening at the hour of gathering about the chimney less than one hundred appeared. The great flock had probably taken up its line of flight and was now far on its course toward the land of perpetual summer. The others lingered for a month longer, gathering in stragglers and also those families, the young of which had been slow in getting upon the wing; and then one day they, too, were off to join their fellows beneath the skies of Mexico or Central America.

We shall see no more of the swifts until some day next spring when we may hear falling to us from the air above a joyous twittering, and, looking up, may catch a view of the first arrival, a black, animated, bow-and-arrow shaped object darting about at such a height that it seems to be scratching its back against the sky.

The birds usually reach us in April, and within a few weeks nest building begins. The structure consists of a bracket work of dead twigs glued together somewhat in the form of a half saucer. It may be found sticking to the

wall on the inside of some chimney. These twigs are the ends of small, dead branches broken from the trees by the birds, who grasp them with their feet or bill while on the wing. They are fastened together by a salivary substance secreted by glands in the bird's mouth.

Sometimes the flow of this gluing secretion is checked. This is possibly due in part to an unhealthy condition of the bird. At such times the nest building must proceed but slowly, and it may even be delayed until time for the eggs to be deposited. Often nests have been examined which contained eggs many days before the full number of twigs had been glued in place.

Before the settlement of this country the swifts built their nests on the inner vertical sides of hollow trees, but when the white man came with his chimneys they left their homes in the forest and came to dwell with him.

A chimney is usually occupied by but one pair of birds. It is only in the autumn, when the swifts accumulate from far and near about some favorite roosting place, that we see so many inhabiting one chimney. Their eggs are four or five in number, and are white. Nature is not inclined to lavish her coloring material on the shells of eggs where it is not needed. With few exceptions those which are deposited in dark places, as in chimneys, or holes in trees, or in the ground, are white. Such eggs do not need the

protection of coloring matter as do those which are laid in open nests and are thus exposed to the eyes of many enemies.

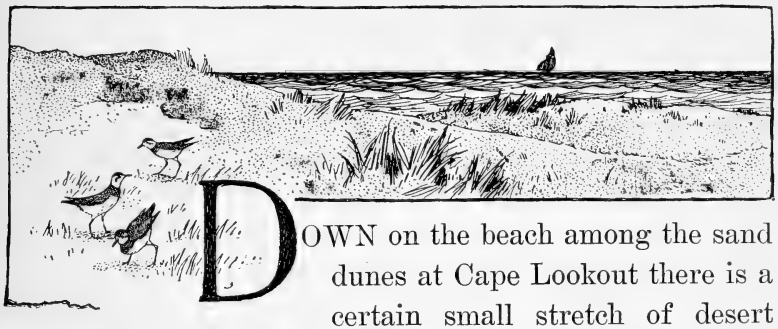
In China and some of the neighboring countries there are swifts which build very peculiar nests. No sticks or twigs are employed in their construction, the gummy saliva from the bird's mouth being the only material used. These nests are much sought by the people of those countries as an article of food. They are built on the faces of cliffs, or the walls of caves. In large numbers they are gathered and sold in the markets as 'edible bird's nests'. To prepare them for the table they are cooked in the form of soup.

Our swift is a representative of a large and widely known family. There are about eighty species found throughout the world. About thirty occur in America, but only four in North America, and the chimney swift alone represents the family in the eastern part of the United States.

THOUGHT QUESTIONS

When do the swifts first come in the spring? When do they leave? Can you tell a swift from a swallow? How is a swift different from a bat? Did you ever know two pairs of swifts to build their nests in one chimney the same year? Did you ever know young swifts to fall down a chimney into the grate or fireplace? If left alone did they at length get back up the chimney? Do you think swifts ever eat fruit? How do swallows and swifts get water to drink?

THE CHILDHOOD OF BIB-NECK

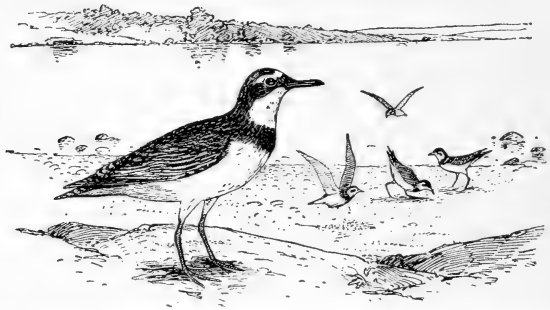


DOWN on the beach among the sand dunes at Cape Lookout there is a certain small stretch of desert where the sun shines warm and the fierce gales which sweep over the ocean never strike, except as in little eddies they whisk around the dunes and blow the dry sand rattling among the broken sea shells. There is no vegetation except on the sheltered side of the sand hills where the wild sea oats grow, and bend, and toss their heavy heads before each breeze. Some distance over the dunes can be seen the dun-colored roof of the life-saving station, standing well back from the ocean beach. Nearly two miles to the north looms the Cape Lookout lighthouse, a black and white signal pillar by day, a blaze of warning light by night.

On this small sandy desert one June morning a young bird for the first time peeped out with its little round eyes.

It did not distinctly see, or hear, or think anything. All it cared for was the pleasure of being out of that horrid old shell, and feeling the warm sun on its head and the soft sea wind blowing the ends of its downy feathers.

However, it soon began to notice things. Its eyes opened a little wider and it could see the warm white sand everywhere and the waving sea oats on the dunes round about,



and could hear the dull roar of the waves pounding over on the beach. By its side lay two other little birds, its sisters, and also a spotted egg sharply pointed at one end. Their nest was a mere hollow in the ground, which the mother had scratched out and lined with a few smooth pieces of shells; but it was quite enough for the short time these little beach babies would have need for a home.

The mother was standing near and the youngster enjoyed looking at her. The feathers of her breast were very white, whiter even than the sand, and she wore a dull gray

coat above. About her white neck was a gray belt, like a bib so loose that it had slipped down on her breast. How large she was, too! She could stand and look over the largest shell on the beach, for she could reach up until she was five or six inches tall. She had long slender legs, and little feet. There were only three toes on each foot, but she could run very fast, nevertheless; faster than the big white crabs when they chased each other. Her voice was soft and clear, so that she spoke in a mellow whistle as though there was a sort of bird flute in her throat. She was of that species which men have named the Wilson's plover.

Now, little Bib-neck (although he did not grow the bib on his neck for days to come) and his sisters grew tired of staying in the hole in the sand, as they had grown weary of remaining inside the eggshells. Soon they were out running about and learning many wonderful things. Their mother fed them and taught them the secrets of the seashore and the ways of plover life. They were not allowed to go near the water, but they often watched their parents run down behind a wave as it left the beach, quickly pick up what good things could be found to eat, and then come speeding back as the next breaker would rush in. In a short time they would be grown and could

do that too, the little ones told themselves. At times the family would cross to the other side of the sand banks and feed along the quiet water's edge of the sound.

Their mother taught them that when the wind blew strong they must stand or move with their faces toward it. No self-respecting plover would ever attempt to take wing in any other direction than against the wind, for if one tried to rise with the wind, its feathers would be blown about in a dreadful manner and it would find much difficulty in starting off. When severe storms came, the plover family would run up the beach to the dunes and sit in the shelter of the sand hills, listening to the rustle of the waving sea oats, and watch the waves throw up their white hands as if the shock hurt them when they struck the shore.

"Always sit still when danger is near," mother plover had often told the little ones. The color of their down was such that if they remained motionless it was quite hard to distinguish them from the ground on which they lay. Many other young birds besides plovers have learned this lesson, and by acting on it have sometimes saved their lives.

Bib-neck often watched the gulls flying about over the ocean, chasing each other, and now and then sweeping down to pick up objects from the waves. One day a large

one came down the beach and gave Bib-neck a great fright. He lay quite still, but he felt sure the gull saw him; for he looked down and gave a loud, laughing shout that filled Bib-neck with terror. Then the gull flew around and around and called so loud that it seemed that all creatures everywhere must hear the signal.

A bird which appeared to be a small gull, but was in reality a tern, did hear and soon joined him. It had a terrible little voice and squeaked as though its wings were fastened on with rusty hinges. Bib-neck lay very quiet and hoped that they would not hurt him; and they did not, for probably they never saw him. Pretty soon the gull flew down close to the little plover, and then with a cry like a loud laugh it flew up again and went on down the shore followed by the tern. An old straw hat had been washed ashore and was lying near the spot where Bib-neck was crouching, and it was no doubt this which had interested the gull and the tern.

But a more dangerous experience, if not a more frightful one, was in store for this juvenile inhabitant of the dunes. One day a sudden cry of warning from his mother caused him to squat silent and immovable as the worn and broken seashells about him. An instant later a fierce hawk stopped suddenly in mid-air almost directly overhead.

Now hawks are not common along these beaches and the

wonder is that Bib-neck knew enough to lie quiet. The hawk had seen him near that spot only the fraction of a second before, and it checked its flight with a mighty whir and flap of its wings which it hoped would cause the little plover to start, or move his head just the least portion of an inch, and thus disclose himself. But Bib-neck did not stir, although the shadow of the bird had fallen over him and the wicked yellow eyes seemed to look straight into his as they searched the sands. The hawk wheeled and hovered, and then flew off only to return in half a minute with another great rush. It disliked to give up the search, for it was hungry and was hunting in good earnest for its dinner.

But it did not have much longer to wait, for it soon surprised a red-shouldered blackbird among the reeds of a small marsh back of the dunes. Away went the blackbird with a startled cackle, the hawk in hot pursuit.

Bib-neck saw it all from his lookout tower on the top of a dune. He beheld his marsh neighbor when first he flew, and saw him at intervals during the game of dodging which followed. He often saw the red epaulettes of the blackbird twinkle in the sunlight, and at times the flash of light on the upturned flanges of the hawk's wings as it dived and twisted in the race. It was all so new and fearful and exciting to him that he fairly danced with nervousness.

The game was a short one, for the small bird was no match for his foe.

As the blackbird was in the act of darting into a clump of sea oats a long yellow foot with claws sharp as needles closed down upon him and one shrill cry told that the end had come. There on some driftwood the hawk stood and, holding its prey with its feet, reached down with its long curved beak and the midday meal began.

The men who lived at the life-saving station sometimes came to the part of the beach where the plover family lived. One day two of them passed close to where Bib-neck and his sister were. They sat very close on the sand and the men did not see them. Father and mother plover were quite uneasy. They flew close to the men and cried and tried to get the intruders to follow them away. The mother even pretended to be lame. When the men saw this one of them said, "Look at that bird; she has a nest or young ones near here, or she would not do that way. I have seen partridges

on the mainland act in the same manner when I was near their young."

Then they began to search among the shells. This alarmed the parents so much that they determined to try their last and best trick. The little mother ran up close to the men, fell on her side and fluttered and cried as though she were dying. The father bird, and two other plovers who had a nest farther up the shore, ran to her and rubbed her with their bills as if very anxious and so sorry about her sickness.

"Look there," said the man who had spoken before; "that bird really is hurt. I have seen many kinds of birds pretend to be injured, but have never seen two play different parts in the same trick."

So they tried to catch her. But Mrs. Plover seemed to get better, and ran on for fifteen or twenty yards and then appeared to be taken sick again. The other plovers gathered about as before and put their bills under her as if to raise and help the sick one. The men went hurrying on, but the lady bird again recovered enough to run for a little distance. Bib-neck saw them pass off among the dunes, the four birds in front and the two men following after.

The young plovers grew very rapidly both in stature and in wisdom, so that before the autumn came they were as

large, if not as wise, as their parents. During the latter part of the summer many other birds, some larger and some smaller than the plovers, began to appear on the beaches. At night numbers of feathered forms appeared to be flying southward overhead, and strange voices called to each other out of the sky.

Flocks of sandpipers, sanderlings and plovers continually stopped on the beaches to feed and rest before continuing their journey. They came at length in swarms, and their numbers seemed to be without limit. Hundreds, and sometimes thousands, would rise and whirl up or down the beach with wonderful precision, all rising, or dropping, or turning with the accuracy of perfectly trained soldiers.

All these sights seemed very new and wonderful to Bib-neck, and yet the forefathers of these birds had been acting in the same way for thousands of years. It seemed that no bird wanted to be alone and all kept in flocks as far as possible. Bib-neck began to imbibe some of the same spirit, and once or twice when a flock of semi-palmated plovers flew by, he joined, and fed with them for half a day. But for the most part he staid by himself or in company with his parents and sisters.

There were also thereabouts some tall yellow-legged birds which had loud clear voices, and when they called

all could hear, from the edge of the breakers up to the dunes and beyond. The yellow-legs were the sentinels, and were always the first to see the approach of an enemy. When the clear whistling danger call of the yellow-legs came down on the wind, the beach birds gathered themselves for a sudden dash; for in flight, rather than in crouching, their chief safety now lay. Men with guns were the foes most to be feared at this season.

The boy who lived at the lighthouse would bring his old musket every day or two and run along the beach after the droves of birds, shooting, and calling to his dog to catch them. And the dog would rush barking across the sand at any flock of birds which settled near. All this but added to the birds' experiences of the day and they did not object to the element of danger in the sport, for seldom was anyone hurt.

There came a day which they all had cause to remember. One morning the shrill warning flute of the yellow-legs suddenly rang out and sounded again and again. These birds had arisen from the sand and were flying swiftly down the beach, calling to everybody that danger was abroad. The distant discharge of a gun was followed in a few seconds by flocks of birds hurrying down the shore. Running to the top of his favorite dune, Bib-neck saw four or five men with guns, coming at a distance.

They wore leggins and each carried a hunting bag, for they were sportsmen from the yacht which the evening before had dropped anchor in the bight of the cape.

On they came with bang after bang of the terrible guns. The birds rose before them and whirled away in swarms. One at a time the hunters dropped behind each other and hid themselves among the dunes. At last only one man was in sight far down the shore.

This wet beach, with its shallow pools here and there left by the receding tides, was a favorite feeding place for the birds, and they were loath to leave it. So, after being driven to the extremity of their range by the solitary hunter, many flocks circled him and turned again up the beach. This quickly brought them within range of one of the concealed hunters, and then another and a few moments later still another was shooting into their midst.

Back and forth, up and down, the terrified birds flew, calling and calling constantly, while through it all ever sounded the danger cries of the faithful yellow-legs. Every way the flocks turned they encountered a gun whose discharge tore murderously through their ranks. For many hours this killing continued, and when at length the hunters went their way they carried with them long strings of birds as well as full hunting bags.

Many were shot and fell which the hunters failed to find.

Bib-neck saw a wounded one that flew out over the breakers sink lower and lower until it fell. For a time it rode the waves, but these at length beat out its life, and long after the gunners had gone he watched its small white body as it rose and fell on the billows, drifting out to sea.

One afternoon it began to rain. All night the clouds gathered and the rain fell and the wind blew. The sky and the sea were very black except for the pale glow of the white caps on the shore. Of the hosts hurrying southward many lost their way because they could not see the landmarks below, and were driven out to sea and the hungry waves swallowed up their weary bodies. Others were blinded by the glare of the lighthouse and dashed helplessly against the big lamp or struck the sides of the tower and were killed. It was a terrible night for the migrating birds and many thousands must have perished.

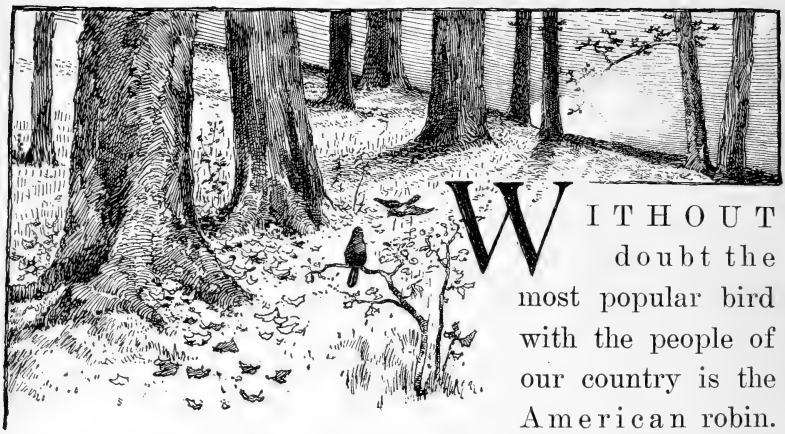
Soon after this a flock of large, fine looking birds was seen feeding on the beach. If the old plovers had really known they might have told their children that these birds were plovers also, their relatives, the black-bellied plovers who lived in the far north and were now on their way south, like so many other birds, to spend the winter months. The sight of these but stirred Bib-neck's spirit the more, for a great longing had grown in his mind to fly away to the southward with the migrating multitudes.

One evening a company of sandpipers and plovers came flying overhead. They called and piped so loudly that the plover family thought it was time for them to heed the warning. So they arose from the beach and bidding farewell to the waves and the dunes and the nodding sea oats, joined the travelers, and soon all were lost to view, flying southward, southward toward the shores of perpetual summer.

THOUGHT QUESTIONS

The killdeer is a kind of plover; have you ever seen one? How do birds teach their young—by telling, or by showing them? Why do birds sometimes sit still when danger is near? Have you ever seen birds pretend to be hurt in order to attract attention? When? Do you know many birds which leave the country when winter comes? Name some. Why do they go south?

ROBIN REDBREAST



WITHOUT doubt the most popular bird with the people of our country is the American robin. Even in parts of the most southern tier of States, where he is seen only in winter, the place he holds in the hearts of men is second only to the master songster, the mocking bird. He is such a cheerful, companionable fellow that one cannot help loving him.

In regions where the robin passes the spring and summer months his song is well known. Scarcely do the first faint streaks of light appear on the eastern sky before the robin, mounted on a tree top or some protruding bough, begins to pour forth his morning hymn of loud, cheerful notes. At almost any time of day one may hear his song, as it is continued at intervals until late in the afternoon.

The male has no employment while his mate is sitting except to gather food, preen his feathers, and indulge in such singing as his joyous heart may dictate. However, when the baby robins have broken their blue prison cells his work begins. Then there is less time for preening, and singing must be given up almost entirely. From morning until night both parents are obliged to toil constantly to feed the hungry nestlings.

Many of the worms and insects which robins eat are harmful to growing grain and fruit. So it comes about that these birds perform no small part in keeping down the number of such pests. Each day a young robin requires more than its own weight of this kind of food. Think what good a family of them must do in a garden in summer!

The nest is usually built in a bush or tree near the abode of man, although at times it may be found to occupy a suitable place far from any house, even deep in the woods. Shade trees in lawns, or fruit trees in gardens, are favorite sites.

Last spring a pair of robins built their nest on the bough of a balsam standing beside a much used walk on our college campus. In gathering the timbers for the home the greatest care was always exercised to work at those hours of the day when there was the least chance of being ob-

served. Thus the greater part of the construction of the nest was carried forward in the early morning while few people were astir. Seldom would any work be done from the breakfast hour until after students ceased to cross the campus in numbers, which was about nine o'clock. Then for an hour or more the building was rushed. Only during the last few days of its construction did I detect them working during an afternoon. The morning was, of all the day, the favorite time for nest making. Perhaps one reason for this was that blades of dead grass, straw and other nesting stuff were then damp and pliable, owing to the night dews, and were much more easily woven into position than after they had become dry and hard.

In a little pool at the end of a leaky horse trough, the birds gathered the mud needed to daub their nest and carried it home in their bills. In dry seasons when suitable mud is difficult to find, robins have been known to carry water in their beaks to a road and there mix the mud for themselves.

On the 18th of April the nest appeared to be completed, for no more materials were brought. On the 22nd the female began sitting. I could see her tail extending over one side of the nest, and her bill pointing upward at a sharp angle from the other. She flew off the first day, when the half hundred young men who frequented that

walk came along on their way to meals. But she soon became accustomed to them, and would sit quietly, although numerous heads passed within five or six feet. No one disturbed the bird nor the nest with its four blue eggs, and on May 6th I saw her feeding the young. Thus about two weeks had been required for the eggs to hatch. Four days after this event, while standing on the walk, I noticed the heads of the youngsters bobbing above the nest. They were gaining strength rapidly.

The morning of May 17th was cool and rainy. A drizzling rain had been falling for some hours. This dreary morning happened to come on the day when the young robins desired to leave the nest. Rain could not dampen their desire, nor check their plans. At seven o'clock three of them were found sitting motionless a foot or more from the nest on the limb which held it. I watched them for fifteen minutes but they scarcely moved during that time, and only when I at length approached them did they take notice of me. Each had gathered him-

self into as small a space as possible and with head drawn down close seemed waiting for something to happen. But their eyes were bright as they looked out over the vast expanse of the lawn before them—that trackless region, to compass which they dared not yet trust their strength. The other one could not be found.

The old birds were making no alarm, in fact they were not even in sight, nor have I ever seen them since to my knowledge. Neither during incubation nor while the young were being fed had they ever been noisy about the nest. They approached and left it always in the most quiet manner. When the male sang he was ever at a sufficient distance not to attract attention to the home in the balsam.

After the family had once deserted the nest there was no hope of their ever returning. So, in order to examine it more closely, I removed it from the limb; I wanted to see how all that wonderful structure was put together. This is what I found: In its building a framework of slender balsam twigs had first been used. There were sixty-three of these, some of which were as much as a foot in length. They served as the sills and studding of the house. Intertwined with them were twenty fragments of weed stalks and large grass stems. The red clay cup, the plastering of the house, which came next inside, varied in thick-

ness from a quarter of an inch at the rim to an inch at the bottom. Grass worked in with the clay while it was yet soft aided in holding the mud cup together. And now last of all came the smooth dry carpet of fine grass. The whole structure measured eight inches across the top. Inside it was three inches in width and one and a half in depth. It was one of those wonderful objects which were made for a purpose, and had served that purpose well.

For some time it has been known that robins congregate in numbers to spend the night. Mr. Bradford Torrey has told us of a large roost in New England. The place was used only during summer after the young of the first brood were old enough to be upon the wing and fly thither with the adult males. The females at this time were busy hatching their second nest of eggs. A swampy woodland was the spot selected, and here the birds assembled each night during the months from June to October. As he watched them entering the woods in the evening, he often counted more than a thousand coming to the roost from one direction.

A winter roost far more remarkable for numbers than this has been described to me by a gentleman who lived near it in his youth. It was situated in what is locally known as a "cedar glade," near Fosterville, Bedford county, Tennessee. The land there is swampy. Lime-

stone outcrops on the surface, and the soil thus long escaping drainage and the plow, gave opportunity for a vast growth of cedar trees. This entire tract covered an area perhaps thirty by forty miles. In all this cedar country, robins came in immense numbers during the winter months to feed on the cedar berries.

"By the middle of a winter's afternoon," said my friend, "the robins would begin coming by our house in enormous flocks, which would follow one another like great waves moving on in the direction of the roost. They would continue to pass until night. We lived fifteen miles from the roost, and it was a matter of common observation that the birds came in this manner from all quarters.

"The spot which the roost occupied was not unlike numbers of others that might have been selected. The trees here grew to a height of from five to thirty feet, and for a mile square were literally loaded at night with robins. Hunting them while they roosted was a favorite sport. A man would climb a cedar tree with a torch while his companions with poles and clubs would disturb the sleeping hundreds on the adjacent trees. Blinded by the light, the suddenly awakened birds would fly to the torch bearer, who, as he seized each bird, would quickly pull off its head, and drop the bird into a sack suspended from his shoulder.

"The capture of three or four hundred birds was an

ordinary night's work. Men and boys would come in wagons from all the adjoining counties and camp near the roost for the purpose of killing robins. Many times one hundred or more hunters with torches and clubs would be at work in a single night."

For three years this tremendous slaughter continued each winter. Then the birds deserted the roost. This desertion has been attributed by Professor Claxton, whose account of the roost has just been given, to three possible causes. First, the constant and wholesale killing of their numbers; second, the failure of the crop of cedar berries; and third, the cutting away of much of the growth which formed their feeding grounds. Whether the birds chose some other roosting place in common I have been unable to learn; but the old roost has not been occupied for twenty-five years.

In many places robins are considered game birds, and during the colder months are often shot as they wander in flocks about the country, seeking food. Once I asked a boy on the Carolina coast near Nag's Head what game birds were to be found there. "Ducks, and rabbits, and robins," he replied.

In the southern part of their range these birds do not pass the spring and summer, so their song is unknown to many. In fact, the birds here are not always looked upon

with the greatest favor. In reckless, rollicking bands they feed about in the pine woods, shouting to each other in loud shrill voices. They come into the towns and dissipate dreadfully. A common shade tree growing in Southern lawns and along the streets is the china tree. The juice of its half dried berries in winter often has the effect of making the consumers tipsy. Tourists are sometimes shocked to see their dear robin friends from the North actually d r u n k and with soiled feathers and u n c o u t h manners floundering in the mud. While in this condition, dangers s w i f t and terrible lurk for their destruction.

Once I came upon an interesting flock of robins feeding in the edge of a wood. Several were in a large china tree taking their fill of the dangerous berries. Judging from the din and clamor the intoxicating juice was already taking effect. One bird in particular had "lost his head." He sat on a stump with ruffled feathers and drooping wings, calling continually. Now and then he whirled with

a flourish of his wings as if striking at an imaginary antagonist. He would wave his wings and strike and scream as though tormented by some woodland imp. Once he flopped to the ground and stood a short time, his tail all jammed upward behind him where it had struck a bunch of grass when he lit. In his endeavors to regain the top of the stump the giddiness in his head was evident, for twice he fell back. At the third attempt he succeeded in grasping the side of the stump, and there hung for some time waving his wings about, and shouting wildly as if for help.

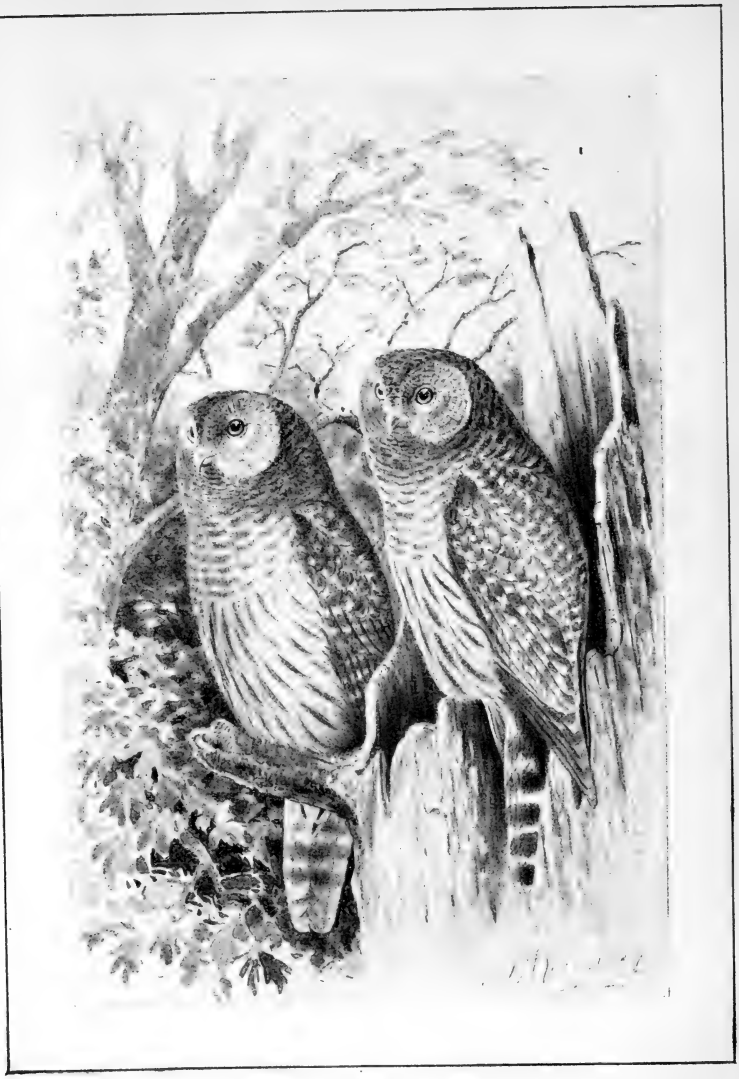
Scarcely had he regained the top when a sharp note of danger sent the flock rushing pell mell for shelter,—all but the one on the stump. He paid no heed. Like a flash a sharp-shinned hawk shot out of the woods straight for the luckless redbreast. Now he seemed vaguely to realize his danger. Rising almost straight in the air he suddenly bore off to the right, barely missing a pine as he did so. Twenty feet farther and, *slap,* a foot of the hawk struck home and the fluttering robin was borne away. The squalling victim fluttered desperately and within fifty yards escaped. The hawk, seeing me running forward with much noise and many flourishes, hastily took himself off.

Picking up the robin I found his captor had but grasped his tail. This hold had proven ineffectual and by dint of much tugging the robin had escaped, although leaving

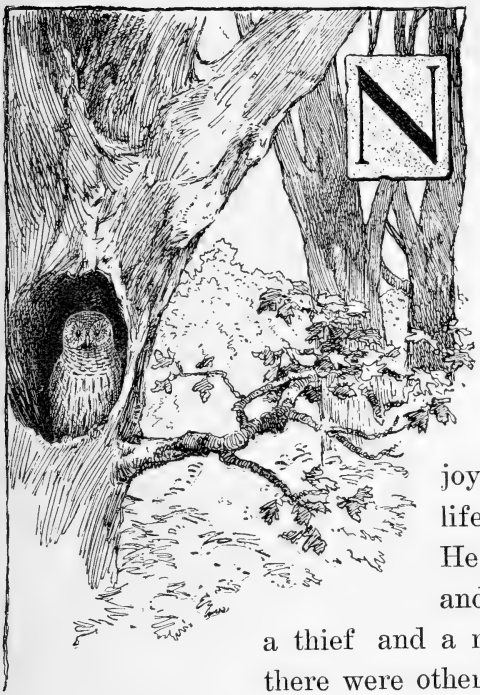
behind every tail feather he had originally possessed. He seemed somewhat sobered by this time and was not at all inclined to comment on the affair. When I left him ten minutes later standing uneasily amid the long wire grass of the woods, he was very quiet, and no sound escaped his bill so long as I was within hearing.

THOUGHT QUESTIONS.

At what times of year have you seen the robin? When does it sing? Does it have more than one song? What is the color of a robin's egg? Does a robin hop, or walk when on the ground? Do robins fight each other? How many times during a day have you heard one sing? Does the robin feed his mate while she is sitting? Can a young one fly as soon as it leaves the nest? Does a robin get its food mostly on the ground or in trees? Should robins ever be killed?



AN OLD BARRED OWL



NO one knew exactly how old he was, but there was an idea prevalent in the neighborhood that "the big swamp owl" which lived in the woods down along the bottom land had been enjoying the pleasures of life for fully ten years. He bore a bad reputation and was regarded as both a thief and a murderer. Of course there were other owls about and there was no absolute proof that this particular bird was responsible for all the crimes which were placed to his account.

The people of the surrounding country, however, were possessed of the strong conviction that this old robber deliberately planned and carried out his raids on their

poultry yards whenever such an enterprise seemed good to him, and that he alone of all the owls was guilty of such deeds. Whenever the midnight air was rent by the agonized cry of a fowl from the direction of the henhouse, the infuriated farmer would spring from his bed and rush out, gun in hand, vowing the most dreadful vengeance on "that old swamp owl."

There was no chicken, guinea or turkey in the whole region that lost its life by night, or failed to return after a day spent afield, that its disappearance was not regarded as due to this bird's inroads. Consequently he was hated and dreaded by all the chicken raisers of the region, and angry farmers on more than one occasion, at the solicitations of their wives, made expeditions into the bottom land woods to hunt out and kill this great source of annoyance. Such efforts were always futile, although charges of lead were often shot into the opening of the large cavity in the big hickory where he was supposed to pass the day.

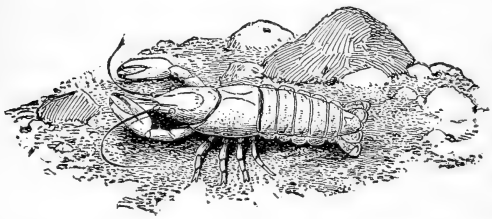
The view of the matter from the owl's standpoint was a little different. True, he visited a henroost once in a great while and took a half grown chicken, as did also his mate. The great horned owl which lived over in the big pine woods and sometimes on rainy days called "*who-o, who-o, who-o*" across the fields to them was likewise not free from guilt. He too would make an occasional night attack on

some sleeping hen and carry her off to his little owlets in their rude nest which had been used and abandoned by a hawk the year before. Minks, foxes, coons, opossums and skunks also knew the flavor of the flesh of the barnyard fowl. Why, then, unless one of these intruders was actually caught in the act, should he always be given the credit for the outrages committed on the barnyard?

Among the enemies with which the farmer has to contend are the rabbits. They get into his garden and eat the vegetables, and gnaw the young fruit trees to a dangerous degree. The barred owls doubtless had no conscious desire to render a service to the owner of the fields over which they hunted, but they did it nevertheless by the number of cotton-tails which they annually destroyed. It was not safe for a rabbit to expose itself in the locality inhabited by the owls. Many a luckless one venturing out of cover into the fields never returned, save as borne aloft through the air by his arch enemy; for, suddenly and without warning, there would bear down upon him, silently as a shadow, the big gray bird. Fearful pains would seize his body as the long talons closed upon him; he would catch the fierce glare of two great brown eyes; there would be a brief struggle, and all would be over.

The crawfish which had their holes in the damp ground along the creek came out much at night and ran about, but

many of them never came back, for they went to feed the same hungry mouths which ate the rabbits. Scores of frogs on the creek banks also lost their lives by the same terrible enemy. A favorite article of food with him was the flesh of the meadow mice. These creatures he captured in great numbers about the farm. Grasshopper steak was also a popular diet with him.



Up in the peach orchard a little screech owl had her nest in the cavity of an old fruit tree each spring for two or three years. She and her mate would sometimes go to the barn at night and even perch in the trees about the yard and call to each other in their strange, shivering tones, which caused the young women in the house to wish that all owls were dead. One autumn they were particularly noisy, for they had brought their children from the orchard and seemed to be giving them lessons in owl music. Perhaps the big fellow from the bottom land, while roving about the fields, heard them. Be that as it may, one morning the feathers of a little screecher were found scattered about the lawn, and from the bark of a large limb over the limestone walk some of them still fluttered.

The old swamp owl hunted and killed at will about the fields and through the pine woods, but always after the shadows of night had gathered; so the eyes were few that saw him come and go, and no ear ever heard the passing of his silent wings. However, it will not do to suppose for a moment that the farmers were the only ones who gave the owl a bad name. All the small birds and animals knew him, although in most part only by the sound of his voice, and they feared him as they feared death.

In a thick growth of young pine trees at the far edge of the peanut field the crows collected one autumn to roost. Evening after evening they came to the grove in a long silent stream from their feeding pastures off to the southeast. Before going to roost they would circle about the place for a time in a noisy throng, their black forms crossing and recrossing each other's trails. Not until the twilight began to thicken would they settle for sleep. One clear starlight night, while returning across the fields from a long day's tramp, my course led me near the roosting place of the crows. When just opposite the grove I heard a flapping in one of the pines, accompanied by two or three startled, strangled "caws." Something had seized a crow on its perch and was coming with it straight toward me. Not twenty feet overhead passed the big barred owl with a struggling crow in his claws. It required great effort to

carry his resisting booty and once he came near lighting; but he soon vanished in the gloom, going in the direction of the swamp.

Next morning when I awoke I heard a great outcry among the crows. They were flying excitedly about their roosting pines cawing and cawing with every possible degree of anger in their voices. They seemed to be discussing something of importance, and when a conclusion was reached they at once started to carry out their plans. Over the peanut field they streamed, and continued on across the old cornfield where the bobwhite family was taking its breakfast. Straight to the bottom land woods they flew, and scattering about overhead began searching the trees and bushes, craning their necks downward and peering into every place where an owl could hide. The clamor never ceased for a moment as the search went on. What the signal was I could not tell, but at some word all turned their attention to a tall cedar, in which a sharp eye had found the object of their quest. It was the old owl, sitting on a limb close to the trunk and blinking his big eyes as if in wonder at all the unusual noises about. Oh, how they screamed at him! "Murderer, murderer," they yelled. "You owl, you owl—you eat folks raw, raw, caw, caw,—we saw, we saw, you old outlaw, outlaw." They reviled him, they told him as plainly as if in words which

could be spelled that they detested the very thought of him.

After a time the owl grew weary of such nonsense, and flying suddenly out of the cedar swept close to the earth and sped away a hundred yards or more to the hollow in the big hickory, into which he flew and was hidden from sight. No crow cared to go into the hole after him or even to perch at the opening, so after more abuse, in which the interest soon began to lag because the tormenters could not see the object of their concern, they betook themselves to their accustomed feeding grounds, a very ill-humored flock of crows.

The barred owls were very noisy neighbors, and at times were quite boisterous. They appeared to shout and laugh and say many queer things to each other, as for instance, "*wah, wah; ha, ha; ha,* WHO AH," or words to that effect. One farmer's wife declared if ever her hired girl left, "that night the old swamp owl was sure to call, 'Who, who, who, who cooks for *you all?*' " But in May, when the three white eggs in the hollow up in the big oak had hatched, the parents did not often call, for they were then much occupied with feeding their offspring.

It was about this time that the man who owned the farm on which the owls lived, learned of a plan that he thought might rid him of them forever. Out in the field a hundred

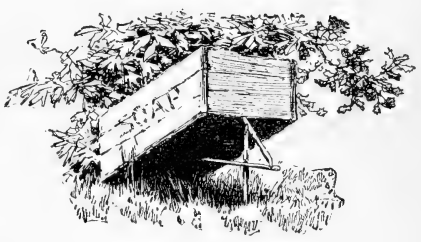
yards from the woods he planted a pole twelve feet high, on which he set and chained a small steel trap.

A night or two later while out looking for meadow mice the mother owl alighted on the pole. With a snap the steel jaws came together, catching and holding her fast in their grasp. She was caught by her three front toes, for an owl has two toes growing in front, one growing out behind, and one which can be turned either way. The trap with its victim fell from the pole, but the chain which was fastened within a foot of the top held securely. There through the night she hung head downward, swaying in the wind and beating her wings against the pole in her vain efforts to escape. All night with dizzy, throbbing brain she swung and beat the air and fought for freedom. In the morning the happy farmer came and put an end to her suffering. He reset the trap and returned joyfully to the house with the dead bird.

The caring for the young now devolved entirely upon the father. Three hungry mouths to fill besides his own! What a busy time he had of it! How diligently he must have pursued the meadow mice and frogs! But he carefully avoided that fatal pole. One night he decided to try

the poultry yard again. Surely all the destruction of mice and rabbits which he had wrought must be worth another fowl!

Near the chicken house some guineas were roosting in a tree. Silently he swooped down upon one of these. A moment later both were upon the ground, but before the guinea had expired it had given vent to several heartrending screams, which had set the whole roost to cackling. The owl was on the point of rising with his prey when he caught sight of a man near the garden gate. There was a flash and the roar of a gun. At this he fled, badly frightened, to the woods.



An hour later, when all was quiet, he returned to the spot where he had dropped his burden. For some reason it was under a strong box, which was propped up by some sticks. But the babies in the woods were hungry; so under the box he cautiously went. The guinea seemed tied to a stick. He gave it a pull, when suddenly down came the box, and he was a prisoner.

Great was the rejoicing in the neighborhood the next morning when it became known that "the old swamp owl"

had been captured, and many of the neighbors came to see him. A small box slatted on two sides served as his prison.

Three days later I saw the feathered outlaw, which was still confined without food or water. His large wing and tail feathers had been badly worn and broken by beating the prison bars in his efforts to escape, and he must have been weak with fasting. When I took him in my hands his great brown eyes rolled and slowly winked in helpless defiance. He sought to reach me with his dangerous bill, and his struggles for freedom were by no means feeble.

I begged for his life, pleading that the good which he did by destroying vermin far outweighed in value the few chickens he had killed. But no, I was told that he had been robbing henroosts for years, and had at length been caught red-handed in the act, and so he must die. "I got the hen owl some time ago," his captor said, "and now I've got the old he one, and I reckon that will pretty well break up their chicken stealing." So the deed was done, and the farmer congratulated himself that he had rid the neighborhood of one of its greatest enemies. Down in the swamp the little baby owls waited for their food and slowly starved to death.

Now the crawfishes and frogs along the creek have less to fear, the screech owls whoop at pleasure in the trees about the house, the meadow mice scamper about the fields the

livelong night, and the rabbits play in the moonlight and gnaw the farmers' fruit trees with impunity, for the call of the great horned owl over in the big pine woods across the fields is never answered from the silent bottom lands. The old swamp owl is gone.

THOUGHT QUESTIONS

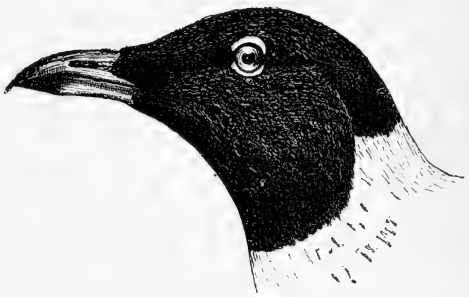
Which has stronger toes and sharper claws, an owl or a turkey? Can an owl run on the ground? When do you hear owls call in the woods? Do you think owls do more good than they do harm? Do barred owls have ear tuffs of feathers which are called "horns"? Would you have killed the Old Swamp Owl?

THE BIRDS OF COBB'S ISLAND, VIRGINIA

EXTENDING along the coast of Virginia is a series of flat grassy islands, many of them so low as to be covered with water at high tide. Among those high enough to be safe from ordinary overflow is Cobb's Island, a long sand bank which at flood tide is only a few feet above water. In the Autumn of 1896 this island was partially washed away during a storm. Previous to this it was seven miles in length, while in width it exceeded scarcely an eighth of a mile. On its eastern side the ocean broke continuously along the entire length. Stretching along the western shore for perhaps half the distance was a marsh.

Among the matted clusters of marsh grass on this island the beautiful laughing gulls found a summer home. In the

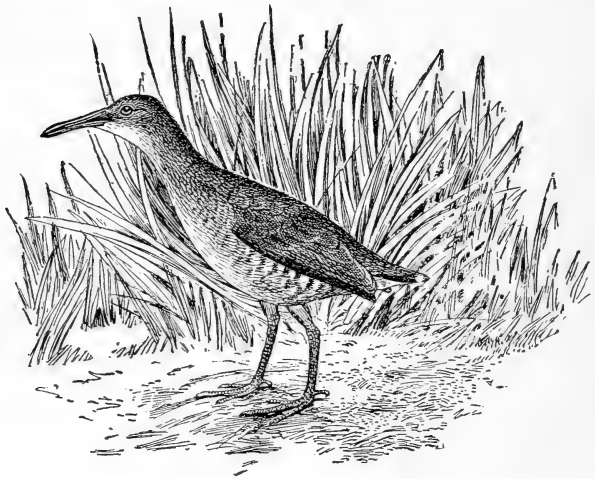
spring of the year they came over the sea from the South, many scores in number, and here built their bulky nests. In order to reach them I once put on high rubber boots and waded out into the marsh. There was no difficulty in finding the large piles of grass which served as nests, situated only a foot or two above the water. In each of those examined either two or three large spotted eggs were found. On my first approach to the breeding grounds several of the birds were observed flying along the beach just outside the surf, but only one or two were hovering over the marsh. However, annoyed by my presence they soon came flying about overhead, filling the air with their cries of distress and uneasiness.



This summer gull is a pretty creature. Its head and the quills of its wings are black, the neck and under parts snowy white, and the feathers of its back are pearl gray. It has feet webbed suitable for swimming, and can ride at will upon the waves like a cork.

From the beach an observer might regard the gulls as the only inhabitants of the marsh. But let him once start

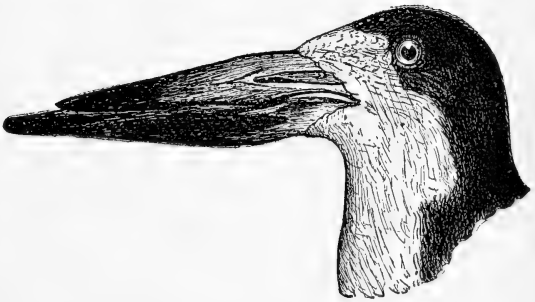
through it and he will change his mind. Clapper rails, sometimes termed "marsh hens," called constantly to each other from their hidden retreats in the grass. At times some of them must have been within a few yards of where I stood, but so carefully were they concealed in their covered runways beneath the grass, and so closely did the



markings of their feathers resemble their surroundings, that, although a dozen of the birds would often be calling near at one time, I was unable to catch sight of a single one. A few of their nests were found. Some of these held as many as twelve spotted eggs, although the most of those examined had been deserted by the young.

The clapper rail is about fifteen inches in length, includ-

ing its short excuse for a tail. Its body is very slender, which makes it admirably adapted for threading its way through the labyrinthian pathways of its marshy haunts. Its legs are slim and the bird is a good runner. It can also swim with ease. It is a poor flyer and as a result seldom takes to wing. Hunters sometimes set the marsh on fire to start the birds from cover. Then when they rise and fly slowly along in their awkward manner they present a target not easily missed even by an amateur sportsman.



Members of the rail family are found in many parts of the world, and everywhere they are the same excellent runners and poor flyers. On the Mascarene Islands there once lived a rail which stood seven feet high. Its feathers had brilliant hues and were much sought by sailors who chanced now and then to land on the islands. So the natives hunted the birds far and wide to get the feathers for barter. Such a war was waged that in the end they were entirely exterminated. The last one is supposed to have perished over two hundred years ago.

Cobb's Island, at the time of my visit in June, was the home of many birds of the sea. On a strip of sandy beach well up from the reach of the waves the beautiful long winged sea swallows, or terns, had their homes. With them were also associated the black skimmers. These are birds which, with long knife-like bills, skim their food from the waves as they wander along the seacoast. From the habit of coming close to shore during bad weather they are often called by the fishermen "storm gulls." "Shearwater" is also a popular name in some localities.

One of the prettiest sights of the coast is a tern; in fact, no ocean view is complete without one. Beautifully balancing on wings of pearl he comes floating down the wind as lightly as a fragment of cloud might drift before the breeze. In flight he has the perfection of movement and the embodiment of grace. What human eye can mark his course and not feel the æsthetic thrill that ever stirs the mind when in the presence of one of Nature's masterpieces? His bright eye catches the sunlight glint on the scales of a fish among the tossing waves and swift as an arrow he strikes headlong into the deep. The downward plunge is as sudden as it is swift and seldom does the bird miss his mark.

Sea birds are possessed of great curiosity regarding any strange object they may chance upon in their wanderings. I have seen gulls hover and scream for half an hour over an old basket awash in the surf. Half way along the ocean side of Cobb's Island lay a broken fishing boat where it had been carried and left by some high tide. The long brown roll of dried sea weed extending along the beach and marking the high water line crossed the spot where the boat lay and partially filled it.

I climbed into this boat one afternoon and lay down on my back to see what the birds would have to say when they saw me. Within five minutes I heard a dry high-pitched squeak and, moving my hat slightly, saw a tern thirty or forty feet above looking down at me. How his little yellow eyes did glisten with curiosity! In another moment he fell off before the wind, but soon came back, slowly balancing along against the breeze. Again and again his squeaky cry was uttered. Then another tern appeared, and soon a gull joined them. Within fifteen minutes a dozen gulls and more than one hundred terns were flying about, all making a great outcry at the strange figure in the boat. Any movement on my part was a signal for a louder outburst of sounds as the birds rose higher or hurried away only to return a minute later to hover and stare and scream as before. Not until I arose and walked away were they

satisfied to leave the spot where had lain the strange creature which had excited them so much.

Many observers agree that twenty years ago countless thousands of terns annually gathered at Cobb's Island to lay and hatch their eggs. Fishermen told me that bushels of eggs could then be gathered in a few hours' search, and that it was almost impossible to walk along the beach without crushing them. People frequently visited the island to gather eggs to eat. While thus engaged the birds would flock about the heads of the intruders with deafening cries, trying to drive them from the beach.

If one of the birds was shot and disabled, dozens of others would gather about the unfortunate comrade with loud notes of distress. Nor would they be frightened away by the repeated discharges of the guns, but would continue to fly excitedly about while one by one they fell bleeding to the ground.

So easily may terns be killed during the nesting season, and so pretty are the silver-gray feathers of their wings, that milliners learned that here was a profitable field for investment. Accordingly hunters were employed to go to the nesting places and shoot the birds. The skins were shipped to the great cities and there made into trimmings for ladies' hats. Ten thousand skins were gathered at Cobb's Island in a single season. All along the coast from

Maine to Florida and around the shores of the Gulf of Mexico as far as Texas the hunting was carried on.

Expeditions were fitted out each summer for collecting the birds. Hunters would take a sailing vessel, provide food and ammunition in sufficient amounts to last them for several weeks, and setting sail would cruise from island to island in search of the birds. Upon reaching a beach inhabited by terns the vessel would be brought to anchor, and here the crew would stay shooting and skinning as long as the occupation continued profitable, which was usually until the birds were all dead or driven away.

By 1890 the numbers of the terns along the Atlantic coast of the Southern States had become so depleted that many of the annual expeditions of the feather gatherers were discontinued. Individual hunters here and there still seek out the few remaining breeding places of the sea swallows and keep up the work of extermination.

One day I stood upon the deck of a two-masted sharpie lying at anchor in Bogue Sound on the North Carolina coast. I was talking to an old man whose long thin hair fell in waves on his shoulders. He was a professional bird hunter and in the captain's cabin near which we stood had, with a companion, skinned many thousands of sea birds. "I have hunted the terns in their nesting places," he said, "from New England southward to the West

Indies, and I do not believe there is a rookery in all this line of coast that I have not repeatedly visited." He had shipped, he told me, more than one hundred thousand skins.

One of the most attractive of the tern family is the small variety known as the least tern. Once they lived by thousands along our coast, but now the birds are rarely seen. I asked the old feather hunter where these might be found nesting, and he replied, "I doubt if there will be a least tern's egg laid this summer within two hundred miles of here."

Before me stood an old man whose eyes had become dim through a life spent in contending with waves, and wandering over the blistering sands of summer beaches. He had never been taught to love and protect the birds, and by killing them he had seen a chance to win his bread. Is he the one to blame for the death of the terns?

The destruction of so many sea birds at length drew public attention, and several States, now when it was almost too late, passed laws for their protection. On some of the islands along the New England coast inhabited by terns, wardens are stationed whose business it is to keep off intruders. Thus protected the birds in a few places are once more increasing in numbers. Societies for the protection of birds have been formed in many parts of the

country and their efforts to arouse interest in bird study and prevent the wearing of bird feathers have met with much success.

But these movements came too late to save the terns of Cobb's Island. Almost as if by magic the vast rookery was destroyed, and as though Nature wished to forget the scene of such bloodshed and suffering, the storm king roared down upon its beaches one autumn, and now nothing is left but a mere strip of sand barely half a mile in length.

THOUGHT QUESTIONS

Were you ever on the seashore; if so, what birds did you see? Were you ever in a marsh; if so, what birds did you see there? Why do rails not live on the open ground instead of keeping hidden away in the tall grass? Do you think terns and gulls should be killed for their feathers?

A PAIR OF EAGLES

IN a thick damp wood near a lake in Levy county, Florida, stands a tall pine tree which for fifteen years has held a nest of the bald eagle. For ninety-one feet the great pine raises its slender trunk without a branch. Thirty feet higher is the nest in the main fork of the tree, which here sends out three limbs.

The structure is a large one. Year after year it has been used, and the birds each season, in repairing the damages sustained during the months when it was unoccupied, have added material until it has become more than four feet in thickness. In width it is likewise about four feet. Some of the sticks used extend outward at the sides, making the diameter of the nest, if these be included, fully six feet. The material of

which it is made consists largely of dead twigs and small pine branches. These usually have the bark still adhering. Some are only a few inches in length, while others are two feet long. The largest stick I have seen in the nest was three and one-half feet in length, and measured at its greatest circumference nearly four inches. The structure is slightly basin shaped on top, the depression in the center being about four inches deep. This I once found lined with dry moss which the birds had gathered by the lake shore when the water was low.

Such is the domicile of a pair of shrewd old eagles that have long been a terror to the wild ducks which in winter gather on the neighboring lake, and a source of continual annoyance to the sheep raisers of the surrounding country in summer. Their careers would long ago have been cut short if the plans of any of the numerous hunting expeditions against them could have been successfully carried out. Poison has been repeatedly set, and scores of rifle balls have sung their way through the forest or across the lake to strike out the lives of these troublesome enemies. But the bald eagles lived on unharmed.

Exasperated at the number of lambs carried out of his pasture one year by these birds, the owner vowed that he would never know happiness again until he had killed at least one of the robbers. But no opportunity came to him

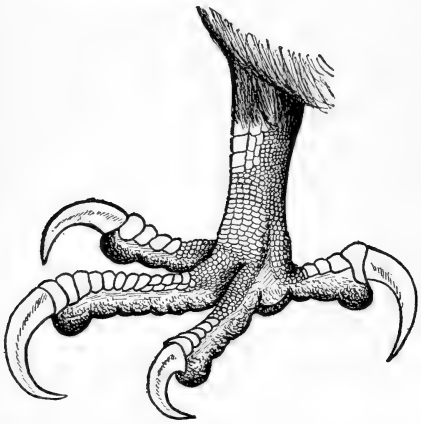
that summer for carrying out his threat. If he caught sight of one of them it was either when his gun was not at hand, or the bird was too far away. During the winter when the birds repaired to their nest to rear their young, the sheep raiser thought the time for their destruction had arrived. Waiting until he knew the eggs had been laid, he took his gun, loaded it with heavy shot, and secreted himself one morning near the big pine in the swamp. He meant to kill the old birds as they approached or left the nest.

When he arrived there was no sign of life about the big dark structure high in the tree. Hour after hour went by but no eagle appeared. Not until eleven o'clock was his watchfulness rewarded. Then before he was aware of its approach the home coming eagle had wheeled and was off in a twinkling out of gun shot. He sent three ounces of lead whizzing after it, then gave up the attempt and went home.

The next morning found the hunter again in the eagle haunted woods near the lake. He made himself comfortable on a bed of long moss which he pulled from the trees. From his position he had a commanding view of the nest and a clear field in which to aim. He propped up the muzzle of his gun with a forked stick which he stuck in the ground, that the weapon might be more convenient to fire

at the right moment. He had brought food and water and meant to stay until one of the yellow eyed birds with big claws should lie dead at his feet.

A cold drizzling rain set in, but the hunter was plucky. He pulled down more moss and drew it as a covering over his legs and body, and waited. Day dawned, and the dull yellow spot which indicated through the clouds the presence of the sun crept slowly upward through the sky. Cold and dreary and damp was the lonely forest, but the man with a purpose staid on. It was twelve o'clock before the rain ceased. Soon afterward with a spring the eagle left the nest, and dodging quickly behind it sped away. Firing harmlessly into the air the discouraged farmer shouldered his empty gun and departed, nor tried again that year to kill the eagles at their nest.



Desiring to examine the nest more closely than could be done with an opera glass, I determined to climb the tree. This I accomplished on January twentieth in the following manner: Taking a narrow board three feet long, I nailed

it crosswise to the tree about five feet from the ground. Clambering upon this board by the aid of climbing irons strapped to my feet, I stood and nailed another cleat in like manner five feet above the first. A rope thrown over one shoulder and tied around the tree aided me in holding my position as I nailed. The strips of wood were drawn up with a cord as they were used, my companion on the ground setting the nails in each beforehand.

By this slow method I reached the nest at the end of an hour and a half. Being on the underside, however, was by no means equivalent to being in a position to see into the nest. Above my head was a cart load of sticks and rotting twigs which had yet to be passed. In order to climb up one of the large limbs against which the nest rested I was obliged to tear away several armfuls of the material. The dust from the decaying wood showered continually upon me as I worked, getting into my eyes, ears and hair. As I proceeded slowly upward, layer after layer of decaying twigs and green stained fish bones were uncovered, showing where the floor of each season's nursery had been.

At length I raised my head above the level of the nest and beheld lying flat upon their breasts two eaglets. They were near the size of half grown chickens, and had bodies covered with whitish down. They offered no resistance to

my handling, nor was there any outburst of complaint, a low whistling cry being their only sound.

Soon after I began the ascent the old birds appeared, and, as long as I remained in the tree, continued to soar anxiously about at a safe distance, occasionally uttering a high-pitched scream, which was a sort of whistling cackle. Only once was there any appearance of an attack from them. The larger one, which I thus judged to be the female, while flying at a distance of perhaps one hundred yards, and at an equal elevation with myself, suddenly changed her course and with set wings came at me straight as an arrow. With raised hatchet I awaited the assault, but when within thirty feet her courage failed and she turned sharply to one side and passed on.

I had hoped to find eggs, and determined to be at the nest on time for this another season. The next year, the weather being stormy, I was delayed until the fourteenth of the same month when the nest was again found to contain young. This time they were larger than those of the year previous. From tip to tip of wings they measured three and one-half feet. The eggs must have been deposited as early as November.

During the months of autumn, especially October and November, the Florida eagles become restless and wander from their accustomed range. This is their love season

and they will chase each other for long distances about the country. One November day I heard a loud roaring overhead, and looking up saw an eagle at a height of some fifty yards darting swiftly toward the earth. The rush of air through its half closed wings caused the whirring sound. A short distance above came another eagle in hot pursuit, nor was the speed checked until within fifty feet of where I stood, when with graceful curves the birds again soared aloft and the chase continued across the fields and over the woods beyond. This happened seventeen miles from the nearest nest and the birds were going in a direction which would lead them directly away from it.

Hunters have told me of eagles which they have seen at many times this distance from their nest. But when we stop to consider that this majestic bird can, with its powerful wings, easily cover a distance of sixty, or eighty, or even one hundred miles an hour, these autumn wanderings do not seem very extensive.

The feathers of the adult bird are dark brown, except the head, neck and tail, which are white. On account of the white appearance of the head, so different from the back and wings, the bird at a distance might be thought to have a head destitute of feathers. Hence possibly came the name by which it is usually known—the bald eagle. This white portion of the plumage does not come until the bird

is over two years old. An eagle's foot is especially adapted to seizing and holding its prey. The muscles of the leg are so arranged that when the weight of the body is thrown on the foot the long sharp claws are driven deep, and once they close on a victim there is no escape.

In mountainous regions bald eagles often build their nests on cliffs. In many sections they are more or less destructive to lambs and young pigs. Where the supply of fish, grouse, squirrels or other natural prey is plentiful, domestic animals are seldom disturbed. Only once have I witnessed such a capture. An eagle carried off before my eyes a grown hen from a flock in a neighbor's barn yard. They are especially fond of fish. These they usually procure by swooping down and snatching them from the water in their talons. It is well known that they sometimes rob the ospreys of the fish which they have caught. There is, therefore, little neighborly love between the eagles and fish hawks of a community.

One day I noticed one of the eagles sitting on a dead pine near the lake. An osprey had worked itself into a great fury at the sight of him and with cries of annoyance was constantly diving through the air at its old enemy. For some time the eagle kept his perch, merely throwing up his wings to avoid a blow when the osprey swooped nearest. After a time he wearied of this continual dodging

and flew to a tall living pine a few hundred feet distant. Here standing on a thick limb with the pine boughs above and about him, he was free from the possibilities of an attack.

Presently the osprey flew out over the lake and, spying a fish near the surface below, paused, while on hovering wings it marked well the spot. For full five seconds it hung there in the air, then suddenly, with a heavy splash pounced into the lake. The water was still foaming as the bird came from the surface and with dripping wings gradually raised, and started across the lake. In its talons I could plainly see its finny victim. Would the eagle attempt to rob the bird of its prey? Anxiously I waited to see, for I had often read and heard of the sight. The osprey was crossing the little lake directly toward me. As I watched the pine, there was a sudden swaying of the boughs and there full and free to view came the great American eagle—the emblem of our national independence. With a mighty spring it had launched into the air and its huge wings were carrying it at a tremendous rate.

The osprey caught sight of the pursuer and its half pitiful cries of "*ki, ki, ki,*" suggested the anxiety of its mind. At once it put forth every effort of its wings. On came the birds, both flying higher as they advanced, each endeavoring to rise above the other. The fish hawk sped

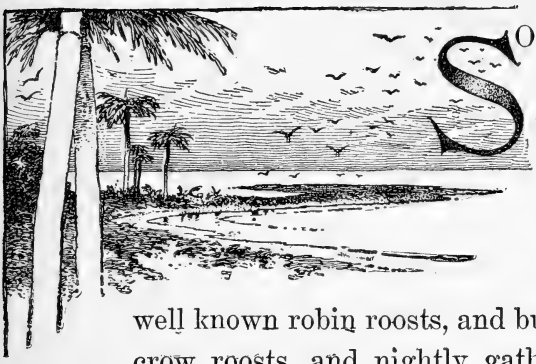
past. Another moment and the eagle roared by sweeping along on the trail of the osprey.

For half a mile the chase continued. The eagle had steadily gained until now he occupied a point of vantage above the osprey. The supreme moment had arrived. I strained my eyes to gaze at the two specks far away. Then as I watched, the upper one swooped until it almost reached the one below. The osprey dodged and to avoid further attacks let fall its prey. Down, down the eagle dropped through the sky to catch the fish before it struck the earth. Ere the tree tops were reached the great wings checked the downward flight, and with the booty in its talons it passed majestically from sight over the forest, a true example of the all-conquering king of birds.

THOUGHT QUESTIONS

What bird is often called the "king of birds"? Why is it called this? What is the emblem of the United States? Young eagles cannot fly for many weeks after they are hatched. Hawks are closely related to eagles. Can a young hawk fly soon after being hatched? Would you like for the osprey to have escaped with the fish? Are there any eagles in your neighborhood?

BIRD KEY



SOME land birds have the custom of gathering in large numbers at certain favorite spots to pass the night. There are well known robin roosts, and buzzard roosts, and crow roosts, and nightly gatherings of swifts, martins and other birds. The number of species which do this is not large, and those which dwell in communities while rearing their young is even smaller.

With birds of the sea the reverse is the case. They often accumulate in countless thousands on some lonely shore for the purpose of rearing their offspring, sometimes many species being thus associated. Of the gulls, petrels and other birds which throng certain rocky islands in the Gulf of St. Lawrence, Mr. Chapman and other naturalists have told us. The Farallone Islands, lying in the Pacific Ocean about thirty miles from San Francisco, are famous for their abundance of bird life.

On some of the South American islands flocks of feath-

ered inhabitants are found in almost inconceivable numbers. Why sea birds have this habit it is hard to explain. Perhaps they gather for mutual protection against enemies. Possibly they desire the companionship of kindred beings during the nesting period.

A breeding and roosting place of much ornithological interest is Bird Key, a small island in Tampa Bay, Florida. The greater portion of this island, like all those in the neighborhood, is covered with a growth of mangrove trees. For years it has been a popular summer resort for three species of coast and ocean birds. At this season the wooded part of the island is divided about equally between Florida cormorants and brown pelicans. The former occupy the eastern, the latter the western portion of the island.

Over the area of the island used by the cormorants many of the trees are fifteen to twenty feet high. Among the upper branches of these the birds build their substantial nests. A local observer told me that most of the cormorants arrive at the rookery in March, and do not leave until August. He said, however, that, probably on account of the good fishing in the neighborhood, some remain about the island throughout the year.

On the twentieth of July, while on a visit to this place, I saw hundreds of these birds. None were found sitting on eggs, and to all appearances the nesting period of the

cormorants was about to close. The young, with the exception of two or three dozen, were able to fly, and when frightened would quit the trees with their parents and fly out into the bay.

The trees and bushes of the other end of the bird town furnished accommodations for the nests of several hundred brown pelicans. Here, too, we found the season nearly at an end. Three or four large groups of pelicans, swimming a hundred yards or more from shore, were made up largely of those young which were old enough to leave the trees and fly out into the water. At this age the heads of the birds do not have the yellow and brown feathers of the adults, but have a uniform coat of gray. Other young ones were lying on their nests, or, if sufficiently strong, were standing or climbing about on the limbs near by. A few of the nests contained large, chalky white eggs. Of the ten nests examined, one held one, five held two, and four held three eggs each.

Young pelicans are vicious creatures. Those strong

enough to stand alone did not hesitate to strike at us threateningly with their bills as we approached, and on more than one occasion they were seen thrusting at each other. These awkward young pugilists are also exceedingly noisy. They kept up a continual clamor, which might have been grating to the ears of any but an interested spectator.

One of our party, whose home was on the coast, remarked that, as it was an easy matter to rear young pelicans by hand where fish were abundant and easily captured, he wished to secure a pair for that purpose. Proceeding to carry out his intention, he approached a mangrove bush holding a nest in which two thrifty pelican children were carrying on a heated discussion over some household difficulty. They were scolding and biting each other in a most unbrotherly manner. But now they turned upon their mutual enemy. A lively scene followed, but he brought them aboard at last at the cost of a bruised hand and a battered straw hat.

Queer looking and queer acting passengers they were, with their great bills, white downy coats, and pinfeathered wings. Once aboard we never saw them quarrel again. At first they had to be taught to eat from the hand, but they soon learned the lesson, and in a short time would flop

vigorously along the deck and stand in an attitude of entreaty when fish were landed.

They made their roost on the bowsprit, and did little but occupy it day and night. At first they wholly declined to be coaxed on deck, and the nature of their retreat made it difficult to dislodge them. If, while on deck, they were advanced upon, the action was at once resented with screams and vigorous waving of wings. As they kept close together on such occasions a wing of the larger bird generally came to rest over the shoulders of the smaller in a truly affectionate attitude, and here it would remain. Punch and Judy we named them. He of the affectionate wing was Punch, she who abode beneath its shelter was Judy. They had enormous appetites, these young pelicans of Tampa Bay, and as fish abounded in the water about us, they were continually fed to their utmost capacity. When two weeks later our company separated, there were none of the party whose appearance had so much improved by the outing as the young pelicans.

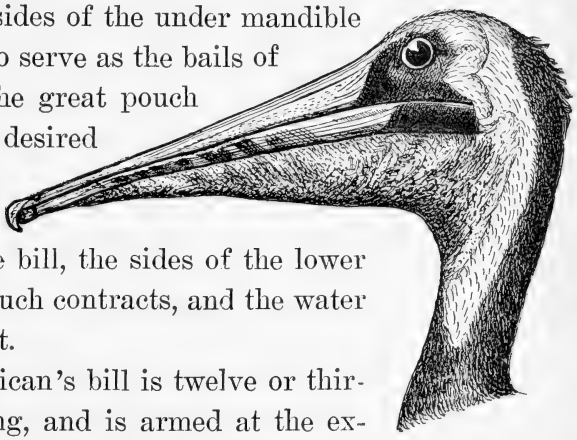
Our stay at Bird Key was but a short call, a sort of flying visit paid from six to eight o'clock in the morning. For the number of young pelicans seen, the company of adults appeared to be disproportionately small; a fact which led me to think that probably the parents were away in search of food. Another striking thing was that we saw no old

ones feeding their young, and at what hour the breakfast came in Pelicanville we did not learn. Although several days were spent in this part of Tampa Bay, pelicans were never noticed fishing within some miles of the breeding grounds. Inasmuch as good fishing could have been found closer, I failed to understand why the birds did not fish in the water surrounding the colony.

The brown pelican is very large. In an average specimen across the wings from point to point the distance is six and one-half feet. In length it measures four feet or more. The size of these birds shows to good advantage when they are on the wing. They usually travel in flocks, varying from a dozen to one hundred individuals. The formation on such occasions is that of a single rank as they silently pursue their course from one resting place to another. As they proceed their wings beat in perfect unison for a time, then suddenly the flopping ceases and all sail apparently without effort. Never have I seen birds move with such dignity or with more precision.

While standing, a pelican usually holds its head high with its bill pointed downward, resting in part on its throat, but if excited, the bird may point its bill almost at right angles to its neck. As one turns to look at you the action is strongly suggestive of the movement of an elephant when he swings his head around, the trunk of the one corresponding well to the bill of the other.

When a pelican goes fishing he carries nothing but a dip net, which is a pouch suspended from his under mandible. Flying along twenty-five or fifty feet above the water, when he detects a suitable fish near the surface he quickly checks his flight and ends his outgoing trip with a sudden downward plunge and a great splash. As the bird strikes the water the sides of the under mandible bow outward to serve as the bails of the net, and the great pouch scoops in the desired fish. Down comes the upper part of the bill, the sides of the lower close in, the pouch contracts, and the water is squeezed out.



A brown pelican's bill is twelve or thirteen inches long, and is armed at the extremity with a sharp hook. The amount the pouch is capable of holding is something astonishing. I once poured fifteen quarts of water into one, the pouch distending sufficiently to hold it all.

Another visitor which comes to Bird Key in far greater numbers than either the pelican or cormorant, is the man-of-war bird. They love to gather here after they have reared their young on some of the islands of South Florida

or the West Indies. In ease and beauty of flight there are few, if any, birds which equal this tireless privateer of the ocean. Imagine a swallow with a long forked tail, and wings whose sweep is seven and a half feet! Such is the general appearance of the man-of-war. It is a bird of the tropics and is a famous wanderer. Its wings bear it far over the sea, and sometimes when fierce gales are raging it may be seen at a great height many miles inland, floating in circles about the sky.

The bird has acquired its name from its wonderful prowess as a pirate. Not only can it swiftly overtake other winged inhabitants of the ocean, but its heavy hooked beak is so formidable that a bird when chased will gladly yield its recently captured prey to avoid a blow from the dreaded weapon. The man-of-war's flight is accomplished with the greatest ease imaginable. I remember seeing one, during a heavy squall, swoop down and pick an object from the waves as gracefully as a swallow might skim a summer mill pond.

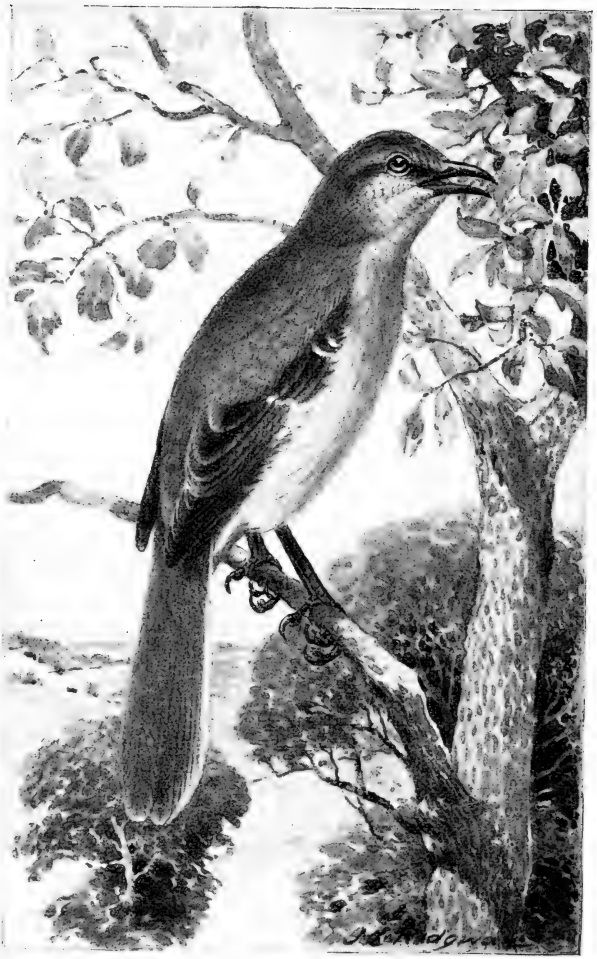
An hour before sunset on the nineteenth of July, the frigate birds, as they are often called, began to appear off the mouth of Tampa Bay, and as the evening closed their numbers increased. All were flying leisurely up the bay toward Bird Key. They continued to pass until dark. At dawn the next day I was in a small fishing boat

grounded on a mud flat three hundred yards from the key. The excitement of being near a great rookery, the sight of so many birds, together with the cries and odors which were borne to us by the wind, will long linger in my memory.

Soon after it became light enough for us to distinguish objects clearly on the island, the man-of-wars, which used the entire wooded portion as a roosting resort, began to rise from the trees. How they could sleep amid all the noises of the rookery I could never imagine. Slowly they arose on their powerful wings, swinging around in ever increasing circles until they reached an altitude of many hundred feet. It was a magnificent sight to behold this top-shaped figure, composed of a great company of birds which must have numbered ten thousand strong. From the upper end of the throng, where the air was clear and pure, the birds headed in a long line, singly and in small companies, straight for the open gulf. By eight o'clock only two or three still lingered in view. The great fleet of privateers had put to sea.

THOUGHT QUESTIONS

Did you ever see a colony of birds roosting or nesting together? In the fall and winter make inquiries for crow roosts in the country. Did you ever see a pelican? If not, look at the picture of one and tell whether you think one could best walk or swim. Can all birds swim? Can a hen swim? How many sea birds can you name?



THE MOCKING BIRD

WHAT the nightingale is to southern Europe the mocking bird is to the Southern States, the most wonderful song bird of the country and the universal favorite of the people. His reputation as a musician is world wide. Whoever hears his song is deeply impressed, and wherever the story of the birds is told, the power of the mocking bird's voice is recalled. He is one of the first in the spring to sing; indeed, I have heard him near the northern border of his range, singing with great force on a clear February morning when ice covered the trees as a garment.

In those States which border on the Gulf of Mexico the mocking birds are in full song by March first. In that semi-tropical climate they abound, and in many sections are the most abundant species. I have sometimes thought

that they must be conscious of the power of their numbers from the bold, defiant manner in which the music will often come from a dozen or more throats within hearing at one time, drowning in its volume the notes of all other denizens of the fields and shrubbery. The bird revels in the glory of his vocal strength, and shouts his ringing challenge to the trees, the flowers, the very sky itself.

Watch the mocking bird some spring morning as with ruffled feathers and drooping wings he sits on the topmost bough of a neighboring tree and pours out the beautiful story of his love. At times the very intensity of the music within his breast lifts him many feet into the air. With dangling legs and carelessly flopping wings he drops again to his perch, singing the while. Anon he descends to the earth for a moment, a few rapid hops in the grass and he bounds again into the air with scarcely an intermission in his song. Music high and low, loud and soft, hilarious and sad, with never a hesitation, never a false note, is what falls to your ears as you hearken to this wonderful, masterful fellow, the music-prince of the southern highways and groves.

However, it is at night that the mocking bird is at his best. If he is the music-prince of the grove by day, he is the song-king of the lawn by night. When all the world is hushed save the faint murmur of distant pines, and the

gentle gales are freighted with the odor of orange blossoms, the song of the mocking bird, softened by the mellow moonlight, floats to one's ears as a message of exquisite loveliness, like the sound of a beloved voice from the silent past.

Besides his native song, the mocking bird has the wonderful power of acquiring by practice the notes of many of the feathered forms he is accustomed to hear. He imitates the songs of the robin and wood thrush, the bluebird and the wren. With wonderful distinctness he will give the clear whistle of the cardinal grosbeak. In regions where the little sparrow hawk is a common resident many mockers can reproduce its cry so perfectly as to deceive the most trained ear. Not all mocking birds have equal power of imitation. The gift of mocking in different individuals seems to vary quite as much as the range of their natural song. An observer in South Carolina speaks of hearing one mimic the notes of no less than thirty-two birds during an interval of ten minutes.

The nest of the mocking bird is variously situated, in small trees, brush heaps, briers, in the corners of rail fences, in the decayed trunks of trees, on stumps, in piles of cord wood, and at times in vines growing about the doors and verandas of our houses. Once I found a nest between the wall and the stick-and-clay chimney of a

ruined negro cabin. The nesting material consists of twigs, plant stems, dry grasses, pieces of paper, strings, strips of bark, feathers, rags or other suitable articles which can easily be secured. The structure is generally lined with rootlets. The distance at which the nest is placed above the ground varies from three to ten feet. Rarely one may be seen elevated fifty feet in the air on the bough of a large tree.

The eggs have a pale greenish blue ground-color and are covered quite uniformly with reddish brown spots. Four is the number generally laid in a nest, sometimes five, and rarely six. The one profession of the male in the spring is singing, and so completely does this engross his mind that to his mate is left the entire responsibility of constructing their habitation and hatching the eggs. May is the principal month for nesting, although I have seen mocking birds incubating their eggs as far north as Ocracoke Inlet by April tenth. In the southern part of its range two broods are reared in a season.

While engaged in incubation or caring for the young, the nest is guarded with the utmost care. The parents will not hesitate to attack any enemy, real or imaginary, which may approach their domain, be it crow, or dog, or man. If they do not actually assail they will at least approach near and scold soundly. Their cry of alarm at once warns

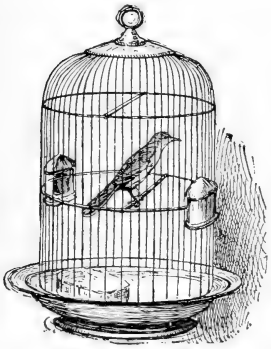
other birds in the vicinity of approaching danger. If the intruder be a hawk the cry is taken up and passed from garden to garden by these self-appointed sentinels, and the evil news of its approach is heralded faster than the winged desperado can fly.

If a mocking bird's nest be destroyed the mother bird will, within a few days, begin building a new one. If an accident likewise befalls this, still another will be built. A pair once made their nest among the rails of a fence near my home. The owner of the fence soon afterward, while making some repairs about the lot, accidently tore the nest from its position and the eggs were broken. The bird then built in a small oak tree near by, but an animal in the pasture rubbed the tree down and the birds were again without a home.

In their search for a more secure position the distressed mockers sought the protection of a large orange tree, and, on a horizontal limb ten feet from the ground, built a nest. Here more trouble awaited them, for a cat climbed the tree, despite the thorns, and ate the young in the nest. If the poor birds were discouraged by this series of disasters they did not show it by their actions. A week after this last catastrophe I saw the female carrying twigs in among the dagger shaped leaves of a Spanish bayonet plant. Here at last she found a sure retreat and reared her young in

safety, free alike from the intrusions of man, and ox, and cat.

If kindly treated this bird will ofttimes become very trustful, and if you are so fortunate as to have trees and shrubbery about your house, he will perch in your doorway and even hop about your room. I knew one which often did this until one day a heavy hand was laid upon him and he was placed in a cage. But the moment he was imprisoned his tameness vanished. He refused all food and dashed wildly against the cruel bars. And O, how long and untiringly he sought his freedom!



Outside he could hear the buzzing of a humming bird's wings among the woodbine on the veranda trellis. He heard, too, the twitter of swifts as they circled and darted about the sky, and again and again the songs and calls of his fellows reached his ears, as they chased each other about the grove in their mimic combats. In his efforts to escape he drove his bill continually between the bars of the cage, until his head was bleeding from many bruises. At times he called loudly for help, and was never content a moment until his wings bore him once more into the bright sun-

shine, for like most wild creatures that have grown to maturity in the free air, he could never be taught to live in captivity.

A friend of mine once picked up a young mocking bird which had been injured and kindly cared for it. She placed it in a cage and fed it for a time with ripe berries and a mixture of boiled egg and potato. Later when it was able to fly it was given its liberty. Instead of leaving, it followed her about the house, hopping and flying along the floor. It would light on her arm and feed from her hand. If she was out of its sight for an hour it would become uneasy, and entering the house by door or window, would seek her from room to room, chirping loudly in distressed tones. For many weeks the bird remained about the house and lawn, and would come when called by his mistress.

Unfortunately for their preservation, mocking birds when taken while young will, with proper care, thrive in captivity. This power of adaptability to cage life is proving its destruction. Thousands of young are collected each year and placed in cages. Of the small per cent of these captives which survive the first few months of their imprisonment, numbers are shipped to Northern cities and sold. In many communities mocking birds are rapidly becoming exterminated, owing to the treatment which they

receive from the hands of the very beings whom they so constantly aid by destroying countless millions of harmful insects. Some of the fruit growers shoot the birds because they choose to sample now and then the fruit which they have helped to raise.

Once I knew a man, who, along with his other occupations, was a grape grower in a small way. He could not "abide" a mocking bird, he declared, "they ate his grapes so much." He shouted, and waved blankets, and hung up bright pieces of tin to frighten them away, but the birds continued to fill their stomachs with fruit and the farmer with wrath.

"One of those pesky little rascals will come," he said, "and go to work on the finest bunch of grapes he can find. He will bite a hole in one, and stick his bill in another, and keep on that way until he has ruined the whole bunch. Then he will jump up on top of the vine somewhere and shout and sing as though he had done something mighty smart and wanted everybody to know it. And the woodpeckers are about as bad," he added.

So at length the exasperated husbandman put a gun into the hands of his son and offered him a reward of two cents a head for all these birds he would kill within a radius of a mile. And the boy hunted and killed to his heart's content with all the glee of a young savage. Within

a week he had shot sixty-five mocking birds, eighteen woodpeckers, seven shrikes, and a pair of kingbirds. In some surprise I asked why he had killed the kingbirds and shrikes.

"I have seen the kingbirds catching our bees," he explained, "and those loggerheads, I don't like them and just hate to have them about."

There were other grape growers in the country, and I asked one of these what he did to keep the mocking birds from eating his grapes.

"O, that's easy enough!" he answered. "When the grapes begin to ripen I inclose each bunch in a paper bag and tie the mouth of the bag close about the stem. That keeps the birds from the grapes, and as they are in the dark I sometimes think they ripen more evenly than if left exposed. Shoot them! shoot a mocking bird?" he exclaimed, in answer to my suggestion, "why, I wouldn't think of such a thing, they catch too many insects and give me too much fine music to think of killing one. If I had no way of protecting my grapes," he continued, "I should plant more vines, so as to raise enough both for the birds and my own use."

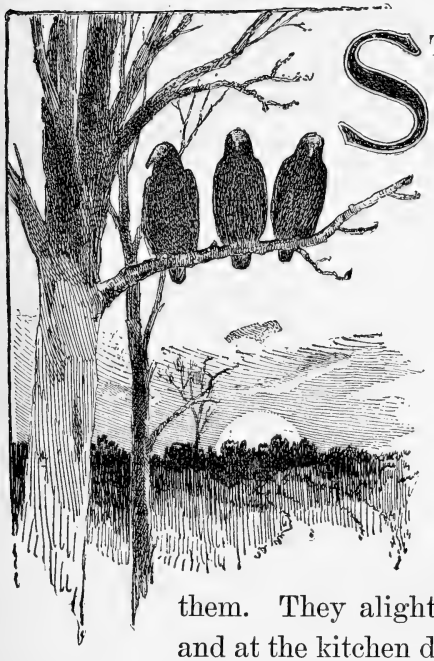
Our mocking bird belongs to a famous family of singers, the brown thrasher and the catbird being his close relatives. Both of these birds are gifted mockers and excellent sing-

ers. The localities which mocking birds naturally inhabit are the growths of shrubbery along the borders of forests and swamps. They leave these places as soon as man comes into the wilderness, and flock to his gardens and orchards, as if to protect his trees, and cheer him with their songs. About the dwellings of the few inhabitants of stormy Cape Hatteras they are very abundant. One of the sweetest songs I have ever heard was that of a Cape Hatteras mocking bird, singing from the shelter of a holly bush one day while the wind was blowing a gale and the ocean rolled upon the wreck-strewn sands of the Cape.

THOUGHT QUESTIONS

Do you know the mocking bird and have you heard it sing? If so, how many different birds' songs have you heard it imitate? Have you known these birds to build a second nest after the first one was disturbed? Do other birds do this? If so, what ones can you name? What is the color of the mocking bird's egg? What materials do they use in making their nest?

THE VULTURES



STRANGERS in the city of Charleston, South Carolina, are often surprised at the number of buzzards to be seen in the yards and about the streets. They appear to have little fear of man, perching without hesitation on the roofs of the buildings, and resting unmolested in the large trees wherever their fancy may lead them. They alight at times in the gardens and at the kitchen doors, picking up pieces of flesh which have been thrown out. A dead animal on the premises, be it rat, dog, or bird, they soon discover, and their appetite quickly rids the neighborhood of the unpleasant object.

They are especially fond of congregating at the market

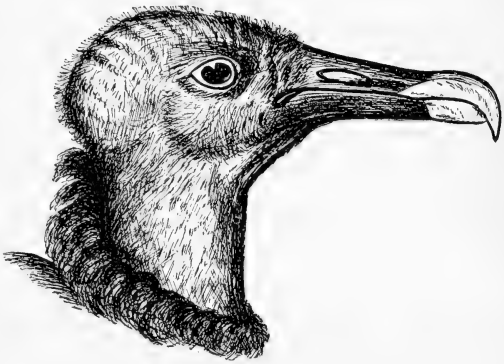
house, where scraps of meat thrown out from the butcher stalls are quickly pounced upon and devoured. Often two or more birds will seize the same morsel and there at once begins a tug of war, accompanied with much hissing and noisy flapping of wings. So accustomed are the inhabitants to these ever ready street cleaners, that they do not hesitate to leave exposed any refuse flesh, well knowing that it will soon disappear. The value of these birds as scavengers is appreciated, and everywhere they are protected by law and by the still safer guard of public sentiment.

There are two species of these vultures. Although in general appearance their similarity is striking, there is much difference in detail. The one abundant in Charleston is the black vulture, often called "carrion crow," and in some sections is known as the "South Carolina Buzzard." Its feathers are black except the shafts of the large wing quills, which are gray. The skin of its bare head is black.

The other species is the turkey vulture, familiarly known simply as the "turkey buzzard." It is covered with very dark brown feathers. The skin of its head is red, and like the heads of all vultures is destitute of feathers. In flying, the tail appears to be longer than that of the foregoing species. The two vultures have certain characteristics in

common; for instance, their food is in general of the same kind, and their nesting and roosting habits are similar.

While engaged in searching for food turkey vultures hunt singly or in small companies. At almost any time of day one or more may be seen soaring about, at one moment low over the gardens and fields, and again sailing hundreds of yards in the air above the earth. A southern landscape would hardly be complete without a turkey vulture somewhere in the background. When storms come they will at times rise rapidly in the air until, on motionless wings, they float in the blue ether far above the raging of the tempest. At other times they can be seen after a shower perched on some tree for an hour or more with wings expanded, drying their feathers in the sunshine.



Although the turkey vulture is a bird of the sky, it seeks a lowly place to rear its young. In the decayed butt of some large tree, or in the interior of a hollow one prone in the forest, the vulture finds an abode. There on the decay-

ing wood or dead leaves, without the least attempt at nest building, the two beautiful spotted and blotched eggs are laid. In those regions where the country is underlaid with limestone many small natural caves are found. In these, often ten or twenty feet below the surface of the earth, this bird may frequently be found brooding her eggs.

The young are at first covered with white down. This has doubtless given rise to the familiar expression, "Every old buzzard thinks her young ones are the whitest." If surprised on her nest the buzzard will make no effort to defend it. She will simply lower her head in the most subdued manner, and not infrequently will humbly lay at your feet a portion of her last meal. The odor of this disgorged peace offering is not so attractive to the average man as it would doubtless be to another vulture, and the intruder at this juncture usually beats a hasty retreat. I have, with the aid of a short stick, removed eggs from beneath a setting vulture without her showing the least resistance.

The principal diet of the turkey vulture is carrion, which it will seek out and eat wherever found. I once saw one feeding on the carcass of an alligator floating in a lake. It is sometimes known to attack weak and helpless animals.

One day I came upon an indignant farmer busily engaged in throwing clubs at a vulture which he claimed he

had just caught in the act of killing a new-born pig. In fact he presently showed me the mutilated body of the little grunter.

The black vulture is rarely seen except in numbers. In flying the bird usually goes in a straight line, moving by alternately sailing and flapping the wings. The flight is so direct and businesslike that it impresses one as being that of a bird bent on meeting some important engagement far away over the fields. Again, the vulture will drop like a bombshell from the sky, hundreds of feet to the earth beneath, while the wind rushing between its body and the half closed wings produces a loud roaring sound.

In the South when a farmer's cow or horse dies, it is customary to drag the body out into a distant field or woods and leave it for the buzzards to dispose of. A red-headed one soon discovers the repast which fortune has spread in his way, and begins circling about the spot. Soon another appears and then others. They are usually in sight of each other and during the course of a day there is scarcely an acre upon which the shadow of one of their bodies does not fall.

The black vultures do not patrol the country in this fashion and how they so quickly discover the dead body has often seemed to me just cause for wonder. Possibly some black-head from his lookout in the sky sees the

unusual activity among his relations and starts for the scene of action, thus by his movements giving warning to a flock of others of his own kind. Be the cause of their discovery as it may, the black vultures in an irregular stream are soon to be observed coming across the country, flying not far above the tree tops, their course straight as an arrow's flight toward the lonely spot in the woods which now holds so much of interest to them.

On they come, twenty, thirty, forty, sometimes fifty or

even sixty in number, their eager eyes peering into the forest ahead, their dusky pinions bearing them forward to the weird, revolting feast, hurrying them onward to the assembly at the vulture's banquet. Soon they are gathered about the lifeless animal and with eager joy their sharp hooked beaks are tearing at the soft parts. They stand upon its body and pick out its eyes; they trample down the

grass and wear the ground into dust; they contend over choice bits, and hiss and fight as they revel.

When satisfied they sit about in the trees and pick their feathers. Some of the more gluttonous will at times become so loaded down with much eating, that when attempting to take wing they are obliged to run and flop along the ground for many yards before being able to rise. Black vultures will sometimes become so gorged with carrion that for a time they are totally unable to fly, and may easily be captured.

Other hungry beings also gather at the same place to feed. Sometimes the great bald eagle may be seen wheeling about in majestic circles, or if far enough south, the caracara eagle may be sighted. At night the half starved dogs of the neighborhood may sneak and snarl about and gnaw at the putrefying limbs of the beast. For some days the vultures stay by the carcass and desert the spot only when nothing further can be gleaned.

It is said that ravens will gather about a sick and solitary animal and grimly wait for death, in order that they may be on hand to feast when the end comes. The actions of a flock of black vultures which I once watched has made me think that these birds at times have the same habit. While riding through a thick forest far back in a southern wilderness, I came one day upon a small lake the line of

whose boggy shore was a most uncertain one. Trees, underbrush and a mass of thick vines extended some distance out into the water as well as fifty yards or more up into the woods where one might expect the shore to be. Through an opening in the foliage I noticed several black vultures circling about at the opposite side of the pond. A number of others had perched on the cypress boughs, and two were standing among the long leaves of a cabbage palmetto tree. One or two sat quietly picking and shoveling the feathers of their backs and wings about with their bills, but the others were continually craning their necks and peering downward into the bog. Whatever it was that interested them was hidden from view by the bushes. I could detect no odor of carrion although directly to leeward of the spot.

Such unusual actions surely needed investigation, so riding around to the opposite side of the pond I turned my horse in through the jungle toward the spot where I guessed the vultures to be, for the growth was too dense to see them. Thick bushes and a confusion of palmetto leaves made it impossible to see the ground a yard ahead. At almost every step great thorny vines had to be cut away from before the horse's legs or breast. Mosquitoes swarmed by the myriad in my face and on my hands, while the little deer flies made life for me a burden, and drove the

horse almost frantic with their biting. To add to our discomfort and the impediment of our progress, the ground became soft and the horse's feet continually sank above their fetlocks in the sticky, treacherous bog.

The horse floundered heavily forward until at length with a lunge he struck a spot too soft for his weight and sank down into the mud to his body, his head buried in a cluster of palmetto leaves with their saw-like stems cutting his face and lips. Almost at the same moment I caught sight of the object of my quest. Lying not ten feet away was one of the half-wild cows of the country. She was bogged sure and fast, and her weak movements showed that her end was near,—starvation had about done its work. The two vultures on the palmetto tree remained seated and regarded my movements with some apparent interest. The others were now upon the wing, circling round about the pond. Standing on the firm palmetto roots, I endeavored with brush and poles to assist my poor horse in regaining his feet. For the next twenty minutes I worked on busily, and the two vultures, the grim, loathsome sentinels, watched my every movement.

Within a few feet was the open water of the pond. Perhaps thirty yards away was a floating tussock. A slight sound and a movement caused me to turn toward this, and there crawling up from the other side was a big twelve-foot

alligator. Sluggishly raising his head a foot or more he looked toward me. In an instant out came my revolver and I at once began to drop lead into the mud about him. Not until the pistol reports rang out did the two vultures quit the palmetto top. When a short time afterward the horse was once more on solid ground, and the alligator was swimming quietly along out in the deep water, not a vulture was to be seen, for although they revel in odors produced by putrefaction, no southern vulture can endure the scent of burnt powder.

The favorite nesting place of the black vulture is on the ground among the palmettos or reeds of some inaccessible swamp. Sometimes the nest is so well concealed that it can be approached only along the runway which the birds make for many yards under overhanging vines and briers. The young when first hatched are black.

Vultures often congregate at some popular roosting place in large numbers. I know of one such roost in a cypress swamp toward which a short time before sunset the birds begin to come from all points of the compass. They are prone to circle about for a time before alighting. They perch on the larger limbs of the trees, often several on one limb, but never sitting close nor crowding each other. Soon after dawn they begin to leave the roost, and as a rule fly directly away. The turkey vultures, singly or

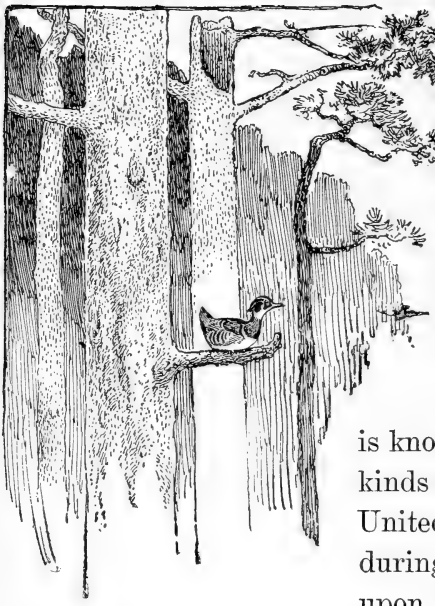
in small squads, scatter in all directions. The black vultures go out in companies, following each other one or two at a time, and flying straight on a given course as if bent on reuniting at some distant rendezvous. I have counted over eight hundred birds at this roost.

In all warm countries of the globe vultures are found, and everywhere they render man the same great service as scavengers. They are all large birds, in fact the largest bird that flies is a vulture, the condor of the Andes mountains. In northern and western North America ravens serve the purpose of the buzzards by eating the remains of dead animals which have been left exposed. Although grotesque in appearance and filthy in habits, the vultures are among the best of man's feathered friends.

THOUGHT QUESTIONS

Does the turkey buzzard live near you? Have you ever seen one of their nests? Will vultures catch birds? Is a chicken afraid of a turkey buzzard? In making a list of all the useful birds you know, at what place in the column would you put the vulture? Do buzzards sail more than crows or robins when flying? Where do they sit when tired and wishing to rest? Sometimes ladies wear long black quills in their hats; do you suppose they know that many of these come from the turkey buzzard's wing?

WOOD DUCK LIFE



IT seems odd to think of a squatty, waddling, web-footed duck making its nest in a tree, but such is the habit of the wood duck. "Summer duck" is the name by which it is known in many places. Most kinds of wild ducks found in the United States are here only during the colder months, for upon the approach of summer they retire farther north to breed. Often in spring or autumn they may be seen on their journeys as in long lines they pass high overhead. But wherever the wood duck is found, it is a constant resident.

One spring while spending some time in a heavily wooded country, I often watched a pair of these birds flying back and forth between the forest and their feeding grounds in

a small lake. They always flew in the same manner, the female leading, the male either following a few feet behind or more rarely occupying a position at her side. They moved very rapidly and in a few seconds would be out of sight among the tree tops. The outgoing trip to the woods was usually made about seven o'clock in the morning, and the return trip three or four hours later.

It was evident from these movements that the birds had a nest at some place back in the forest, and I spent many hours in hunting it. One day, by chance, I detected the male sitting on the bough of a tree fully fifty feet from the ground. Thinking the female must be in the neighborhood I sat down and waited. Doubtless the duck on the limb saw me, but as birds often do when not suspecting themselves seen, he remained perfectly quiet, not willing to risk so much as a movement of the head for fear of attracting my attention. For half an hour I waited, and then was rewarded by seeing the female emerge from the top of a tall stump. At once the male joined her and the two sped swiftly away in the direction of the lake.

The stump from which the female had flown was what remained of a once large forest tree. It had withstood the gales of a hundred years or more, and then at some period in its old age had been broken off about twenty feet from the ground by a strong wind. The heart of the stump had

decayed from the top downward for three or four feet, leaving a solid rim of wood on the outside. In this hollow the wood duck had made her nest. She had come that morning to lay an egg, and while thus occupied her mate had gallantly waited to escort her back to the lake. Climbing up I found four eggs lying in a soft bed of feathers which the female had plucked from her body to make the nest soft and warm.

The following afternoon I went with a friend to look at my new-found treasures in the wilderness. Upon coming in sight of the nesting snag, great was our disgust to find that old rascal, the crow, standing on a stump close by eating one of the duck eggs. We rushed at him with rough words, brandishing clubs and threatening to exterminate his race. The black rogue retired to the limb of a tree and wiped his bill on the bark with the most diabolical unconcern. He could see that we had no gun and so was in no hurry to leave. The shrewd bird certainly guessed

that we would soon depart and leave him free to finish the feast which he had found in the stump.

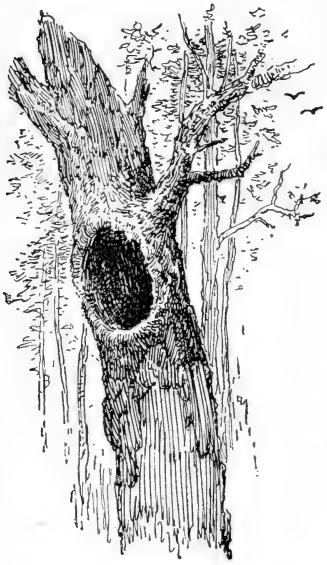
The shells of two or three eggs, from which the contents had been eaten, were lying about on the ground, and upon climbing to the nest I found it held but a single one. I visited the stump frequently afterward in the hope that the ducks would continue to use it, but they at once deserted the nest which had met with such ill fortune, nor have they ever used it since.

Three weeks after this occurrence, the birds were again making daily trips into the forest as before, which suggested that a second setting of eggs was being laid. Day after day I searched for their new nest. Marking the line of their flight, I chose the general direction and followed it, examining every tree or tall stump I passed. But my efforts were without result.

Some weeks later a boy came to tell me that he had found the "summer duck's" nest, so we journeyed into the woods together. The nest was about thirty feet from the ground, in a large cavity of a living tree. The boy said that when he climbed to the opening two days before, he had seen eleven eggs. But now we found that the eggs had hatched and the ducklings had departed.

It has been stated by some observers that the young are carried from the nest, one at a time, in the bill of the parent

bird and deposited on the ground at the root of the nesting tree, whence they are afterwards led in a body to the water. Still others say that the young drop from the nest, spreading their feet and moving their wings to break the force of their fall. This nest was a mile and a half distant from the nearest body of water; to reach it, if the young walked, they would be forced to pass through forest and plowed fields; surely a most tiresome and perilous undertaking.



The next morning I crossed the field to the shallow arm of the grassy lake from which the ducks had so often come. Approaching cautiously I was able to make them out some distance from shore. There was much marsh grass here which partly obstructed the view, but I was sure that I detected a number of young ducks swimming with them. Being satisfied that the family was now located, I went up the shore some distance and, entering my canoe, came cautiously back toward the feeding birds. I used every precaution. Lying

in the canoe with one arm over the side near the stern, I slowly sculled around the last bend in the marsh grass and came in full view of the spot where I had seen the brood.

But the old birds alone were to be seen. There they sat silent, with heads erect and necks stiff, at some distance from the position they had recently occupied. In a moment they had risen from the water with a great noise of whistling wings that made the little dell resound. Gathering headway at once they rushed whizzing away like a pair of departing bombshells.

Surely there were no young about, to be deserted in this way. To make sure I shoved the canoe here and there through the grass and reeds, and struck the water repeatedly with the paddle, but no young could be found. While this was going on, the old ones returned and circled several times around the end of the pond, and then settled in the open lake half a mile away.

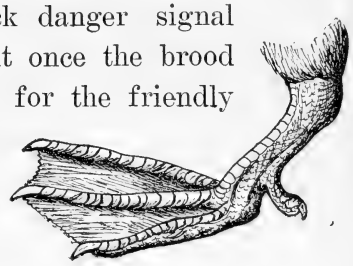
Some hours later I again approached the ducks' feeding ground and again saw the old ones with the young. I determined to outwit them if possible and see what became of the young. Taking a boy in the canoe we boldly approached the ducks. As we rounded the point of grass there were the male and female sitting alone as before. Instantly they were upon the wing and after flying about some time lit at a distance as in the morning. An old rail

fence, which had now partly fallen, extended from the field out through the grass in the shallow water. On this I climbed and lying at full length on a couple of rails but a few inches above the water found myself well hidden from view. The boy now paddled away up the lake with my hat and coat decorating one of the paddles which he leaned against the middle thwart. I lay in the sunshine and waited.

Twenty minutes later the ducks came flying down the lake, the female in the lead. Silently they lit in the water near the bend of the grass, and swam directly toward my hiding place. Feeling sure both men had gone away in the boat they did not stop to reconnoitre, and one of them soon gave two or three low clucks which quickly brought the young out of their hiding places in the grass. How the little fuzzy fellows did gather about their parents, and how happy they seemed at the old ones' return!

The duck babies were that day being given lessons in diving. The female would go under water and swim for five or six feet before coming up. The ducklings would follow her example, but often could get little more than their heads under water, while their feet worked so diligently that the water boiled behind them. All this went on not more than fifty feet from my retreat.

In the midst of the performance a slight noise from my direction caused the quick danger signal to be given by the father. At once the brood was in action, hurrying away for the friendly cover of the grass. Wishing to catch one for a closer look I rose hastily and began splashing through the water toward them. This time there was no desertion by the parents; the young were not yet hidden and so could not be left in safety. Here and there, round and round, the anxious old ducks fluttered as though helpless from broken wings.

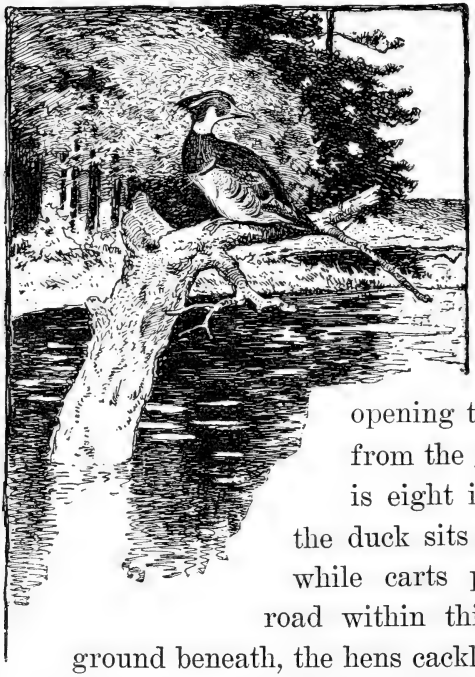


The female hurried the youngsters on by alternate leading and driving, while the male endeavored to divert my attention to himself in another direction. Even after the brood had distanced me in the chase and were well secreted, the parents did not leave the pool. Their secret had been discovered and they continued to feign lameness until I had waded ashore and departed across the fields.

Wood ducks sometimes select for their nests trees close to water, but those with which I have met were all some distance away. In fact I have never found one closer than half a mile to a lake or running stream. The entrance hole to the nest is sometimes so small that it seems almost

impossible that the bird should be able to enter. Once I found a nest in a tall stump, the entrance to which had been made by a flicker.

Although the uncleared forest is their chosen nesting haunt, they will sometimes build close to the homes of man.



Among the wooded sand hills of Cape Hatteras, standing in a dooryard there is a living holly tree, in the cavity of which some wood ducks have made their home each spring for several years. The opening to the cavity is ten feet from the ground, and the hollow is eight inches in depth. Here the duck sits and hatches her eggs, while carts pass along the sandy road within thirty feet, and, on the ground beneath, the hens cackle and children play.

Determining once to take a peep into this nest I approached the tree and struck it sharply several times with a heavy stick to see if the female was at home. But no

duck appearing, I climbed to the opening. Out against my face and away she dashed with a frightened rush. Straight out over Pamlico Sound she went as though she contemplated crossing that forty mile tract of water. But within five minutes the anxious mother was back, having circled and returned through the woods. Several times she flew through the trees of the yard and once seemed on the point of perching. After this she did not leave again until I was well on my way up the road, then she flew away toward the Sound.

At this I hurried back and hid near the nesting tree. In a few minutes she returned and pausing a moment in the entrance of the cavity disappeared within, from which, I hope, there emerged later a brood of young ducks.

The habit which the bird has of lining her nest with the feathers of her body serves a double purpose. Not only do they make a soft bed, but the bare warm skin of the bird's breast gives a greater warmth to the eggs by resting directly against them.

The wood duck is a favorite game bird in many places and is much appreciated as a table dish. Along in August, when the young are nearly grown, the sport of the local gunners begins. In regions where the birds are numerous they can be found on nearly every pond and stream of any size. Often two or more families unite and thus large

flocks are formed. Their feeding ground is usually in the clear patches of shallow water among rushes and grass where sometimes they may be approached with ease.

The sight of a group of feeding wood ducks, as they bob about, dipping their heads under water, is a novel and fascinating one. While at rest they enjoy standing or sitting on partially submerged logs or stumps, and when feeding they often have one or more sentinels posted, sometimes on a tree or snag several feet above the water. This is one of the birds which has stood well against the advances of civilization. All over North America where woodlands exist, and lakes or running streams abound, the beautiful crested wood duck is found.

THOUGHT QUESTIONS

Do young ducks have webbed feet when they are first hatched? How old is a duck before feathers begin to appear in place of the down which at first comes? Do tame ducks roost at night on perches, or on the ground? How soon can a young duck learn to swim? Are ducks' eggs the same shape and color of hens' eggs? Do you know the wood duck?

THE SNOWBIRD

EACH change of the seasons, almost each phase of the weather may be associated with the appearance of some particular bird. Thus a certain kind of spring weather always brings to memory the song of the wood thrush and the whistle of the bob-white. One or more mornings that are sure to occur each year cause me to think of a time late in June, when in an apple orchard in the Hudson Valley I watched the black-and-yellow goldfinches about their nests. Other times bring fresh to mind a day deep in summer when I wandered through a meadow in eastern Indiana and startled the bobolinks from their lurking places in the grass.

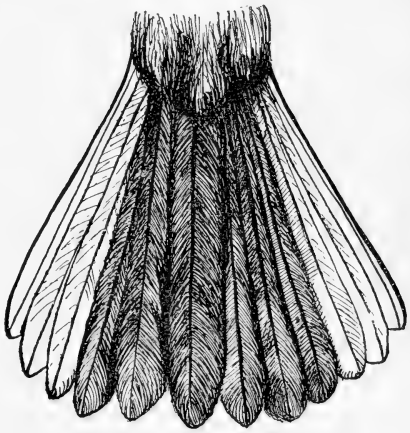
And so it is that when the autumn days come, and the nights grow frosty, when the leaves are red and gold on all the trees, and the flocks of cedar waxwings come to feed on the berries of the black gum and the mistletoe, I look for the first snowbirds to appear along the borders of the woodland.

It is usually near to November when we first see them in central Carolina. This year I went into the woods and fields looking for the snowbirds, as is my custom, on October fifteenth, and continued to go each day thereafter until they came. It was not until the evening of the twenty-eighth that I was rewarded for my watchfulness. While returning home a little before sundown, four birds flew up from among the weeds at the roadside where they had been feeding, and perched in some cedars near by. They positively refused a closer inspection and my inquisitiveness soon caused them to fly away. By the glimpse I had, and by their notes, I knew them to be snowbirds, the first of the season. They were of the species called eastern snowbird, or *Junco hyemalis*. Two days later others were seen, and by the time a week elapsed they had become abundant.

During the winter they are one of the most characteristic and abundant species of birds which inhabit our dooryards and fields and woods. They keep together in flocks, sometimes fifty or a hundred being seen at a time.

Sparrows often flock with them. The white on the outer tail feathers is distinctly noticeable when the bird flies, and is a good mark to look for when endeavoring to identify it. The white patches, contrasting with the dark, slaty color of the back and tail, make the bird easy to recognize.

When the snow comes and covers up much of the birds' food, the stout weed stalks still hold their store of seeds high above it all, and to these the snowbirds are wont to come. They alight on the stalks, and by their pecking thrash out the seed, which are afterwards gathered from the snow.



Sometimes the hunt for food becomes a most serious one. In February, 1899, a distressing cold wave swept the country. On the thirteenth a sleet came and covered the trees, wrapping each limb and twig tightly as in a blanket. Grass and weeds were covered and crushed to the earth beneath its weight. The next day the snow fell until it lay deep upon the ground. All bird food was buried under this merciless sheet of ice and snow. The cold was so

bitter that for two days the thermometer constantly hovered near the zero point. The voices of the birds were still, the wind did not blow, and an unearthly silence brooded over field and forest. The crows which flew eagerly about the country, seeking food, did not caw. The nuthatches and woodpeckers made no sound, life was too serious now for comment. The usually noisy Carolina wren neither sang nor scolded. The great famine of the birds was on, and thousands upon thousands perished during those awful days.

One evening I noticed a snowbird fly to the building in which I lived and disappear in a slit between the bricks near the ground. The next evening I sprinkled some bread crumbs on the snow in front of the entrance and watched from the window above. About sunset the snowbird appeared. I am not sure that it ate any of the bread, although it stopped before going in to roost and apparently examined the crumbs.

The next morning I saw a snowbird, which possibly was the same one, alight in the snow about sixty yards from the house. Several fierce, hungry-acting blue jays came moving through the grove, silent as ghosts. One of them saw the snowbird and immediately darted after it. Extreme hunger had changed the jaunty, saucy jay into a gaunt cannibal. The nearly starved snowbird fled, but

within fifty feet dropped into the snow. The jay was close upon it, when I threw up the window, waving my paper and loudly shouting a remonstrance. The jay paid no heed but pounced upon his intended victim. Springing out of the door I ran floundering through the snow, hallooing as I went. The snowbird managed to escape, but its weak wings soon gave way and again it dropped. The jay alighted near and gave it a vicious peck, but I was on the scene by this time, and before the blow could be repeated had interfered. The jay retreated a few yards and stood in the snow defiantly watching me. I strongly urged him to leave the country, and emphasized my remarks by throwing snow balls at his head. I had failed to notice where the snowbird went, and so, when the jay had retreated, was unable to locate my pet. It did not return again to its roost in the brick wall.

In the early spring snowbirds begin to sing. The song is little more than a trill repeated over and over with pleasant monotony; but coming, as it does, when few birds are singing, and issuing from such a nice, gentle bird, the few notes are very pleasing to hear. My notebook shows me that the first one I heard trilling this year was on March first. The birds sang nearly every day after that and on the twenty-fifth a dozen or more were heard at one

time outside my window, although the day was cold and a heavy mist was falling.

The Junco is found over the greater part of North America east of the Rocky Mountains. In the southern part of its range it comes only as a winter visitor. In the mountains of Virginia and the Carolinas it is a resident the entire year. And so when the warmth of summer comes, the snowbirds of all the Southland retire to the North, except those which go up into the higher mountains to nest. Visit the Junco in his summer home and you will find his lodge a simple little nest of grass and rootlets hid away in a low bush, or in some snug spot on the ground; and if the season be early you may find in it four or five brown-spotted eggs. Here too you may hear his singing; and his short trill of early spring has now a deeper, sweeter tone.

There is a picture which will long linger in my mind, of a pair of snowbirds and their nest, up on the side of Grandfather mountain. When we saw it the morning sun was flooding the Blue Ridge in a blaze of golden light. Down the slopes and into the valleys its foremost rays were darting, jewelling in their courses a thousand dewdrops on every tree and rock. Grand and beautiful were the surroundings; as fresh did the world seem as if just from the Creator's hand. On the eastern side of this mountain,

where it was always sure of the warmth from the rising sun, a little bird sat snugly in her nest on the ground. Now the light shown directly upon her, but later when the blazing orb should climb higher through the heavens, there was the shelter of an overhanging cluster of leaves to protect her from the scorching rays. Her head turned inquiringly from side to side, as with first one eye and then the other she examined a neighboring laurel bush behind which appeared two heads. "Queer that they keep looking at me," she may have said to herself, "but I guess they will not hurt a body."

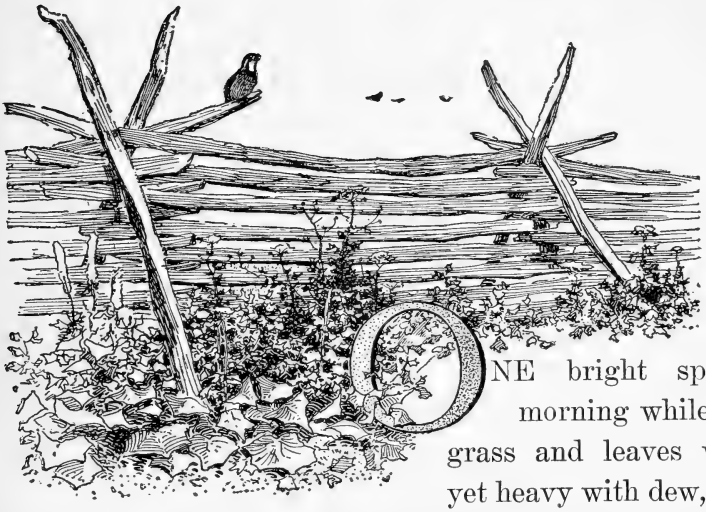
Just then her mate flew along and alighted on the topmost spray of a neighboring bush. He evidently did not see the strangers, for a moment later in a low reassuring tone he began his morning song. Louder and more confident he became as the beauty of the morning and the sense of security of his mate and their treasures grew upon him. His head was thrown back, his white breast contrasted strongly with his black head and gray coat, and his throat swelled as the enchanting strain came stronger and clearer. Ah! why did we ever have to leave the singer and his song!

And so I like to think of him as each spring he sings—a solitary songster on the mountain side; mingling his music with the murmur of the brook, his only listener the mate he loves.

THOUGHT QUESTIONS

Does the snowbird come in your neighborhood; if so, when does it appear? Will snowbirds eat crumbs and suet if they be offered them? Did you ever hear a snowbird trill? Snowbirds are closely related to sparrows. How many kinds of sparrows do you know? Where do sparrows build their nests and what kind of eggs do they lay? Where are the places to look for sparrows and snowbirds—in trees, fields, or flying about the sky?

A BOBWHITE FAMILY



ONE bright spring morning while the grass and leaves were yet heavy with dew, and the air was still, as if the world were hushed in the presence of such a perfect day, a fine male partridge walked the top rail of a farm fence and loudly whistled his favorite note. "Bobwhite, Bobwhite," he seemed to say.

Over the meadow land and the cornfield floated the call. Down the lane and through the plum orchard it rang until it reached the ears of Farmer Levering standing in the doorway of his house. A smile rested on the good man's face, for forty years of toil in the fields had not worn from

his heart the love he bore for living nature. He was soothed by the quiet morning, and the warming sunshine; by the dew on the cornfield, and the whistle of the partridge ringing through the air, while memories of other days floated through his mind.

The farmer's son also heard the note and paused to listen as he saddled his horse. He too smiled, but thought of the autumn and the time for dogs and guns. Perhaps the old barred owl in his hollow hickory in the bottom land woods drowsily heard the sound and twisted his wise old face into a smile, and licked the inside of his bill at the thoughts which came before he dozed off again into dreamland.

There was still another that heard the whistle. This was a plump female partridge on the ground not far away. Whether she smiled is not recorded, for she remained hidden in the grass and admiringly watched the splendid appearance of the figure on the fence. Quietly she answered in the low, ladylike manner of her sex. For half an hour the partridge on the rail remained at his post, calling and indulging in much self-satisfied strutting, which showed the brilliancy of his feathers to good advantage. Then, the dew having partially dried, he flew down and led his mate away through the grass and beneath the overhanging leaves of the growing corn. By bounteous atten-

tion and expressions of affection he paid his tribute to the god of bird-love, as winged creatures have done ever since the days when birds first sang, and loved, and mated.

Ah! those which followed were glorious days about the Levering farm. For the voices of many spring birds filled the fields, and the swamp lands, and the pine forests all about; and the partridge with his mate lived and whistled and, on tireless legs, roved through it all. Close to a rail fence the nest was built beneath a bunch of grass, and day by day, for nearly two weeks, the white eggs it contained grew in number. Then for many days the mother brooded over her treasures, keeping them warm and guarding the nest from danger. Her mate fed her and at times even sat in the nest while the tired one went away to exercise and search for food.

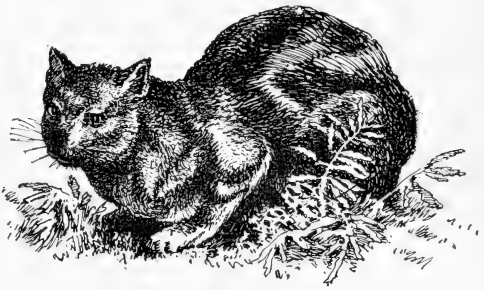
Out into the field one day the parents came with their family of babies. Thirteen little brown, fuzzy, down-covered balls were these chicks, for all the eggs had hatched. It was only that day that each white shell had opened before the vigorous pecking of the little bird inside, and let out its prisoner. No weaklings were these bob-whites. They had no notion of remaining in the nest and being fed like young sparrows. No sooner had the sun and wind dried their downy coats than they were ready and anxious to start afield with their parents.

Great was the anxiety of the old ones that day, for they had so many duties to perform. Nourishment must be found for mouths which as yet had never tasted food. The grass must be watched for lurking cat or skunk or gliding snake. One eye must be kept open for dogs or men. The sky must be watched for the murderous hawk, while all the time great care must be exercised to keep the family together.

As Farmer Levering was crossing the meadow he heard, a short distance in advance, the rapidly repeated, warning clucks of a partridge. At the same moment he caught sight of a number of small downy objects hurrying with low whistling cries in all directions. Hardly were they seen before all had disappeared. Beneath blades of grass, under the edges of upturned clods, lying flat in the open, anywhere, everywhere they had hidden. As if by magic all had vanished and, search as carefully as he might, not one could be found. Two adult birds, apparently in great pain and distress, were fluttering along the ground eight or ten yards away.

The farmer did not follow nor attempt to catch these shrewd old parents. Well did he know their secret, nor would he have harmed either the old birds or their young. It was a beautiful sight to him, this devotion of the parents, as they recklessly risked their lives for their offspring.

The kind man passed on, thinking with joy of the partridge family and the good they would do on the farm that summer if mishap did not befall them. He thought of the numbers of harmful insects they would destroy; of the potato bugs they would kill; of the hosts of cutworm moths they would eat; and the quantities of noxious weed seeds they would consume. "They are a great blessing to any farm," he said, "and not one word of evil have I ever heard spoken against them."



Many are the troubles which beset the young birds' pathway of life. A limit has been set upon the undue increase of any species of bird, and this is a law of Nature: The number of young brought into the world by a species varies with the destructiveness of its natural enemies, and so it is that the robin lays few eggs and the partridge many. The second day out from the nest, one of the little bobwhites was stepped upon by a horse galloping about the pasture. The next day one sickened and died. A third was caught by a

prowling cat. Another fell into a deep post hole and never got out again.

When some weeks had passed and the young had learned much about taking care of themselves, the mother suddenly forsook the family. Close beside a rarely used road which ran through the open pine woods, she scratched a slight hollow in the ground at the base of a small pine, lined and covered it over with grass, and there laid another setting of eggs. In due time a second brood appeared. Fifteen more little fuzzy balls of life started on that long journey, fraught with so much danger, from the days of down toward the days of feathers.

Scarcely had their mother led them from the nest when a storm came on. For hours the rain fell in torrents. Water ran everywhere. The road was turned into a stream. In the woods it stood in pools. Night closed down and the storm continued. In vain did the anxious partridge strive to cover and protect her brood. The water rose under her. The little ones became soaked and chilled; some were drowned outright. When the light came again and the rain had ceased, only six small voices were able to cheep a feeble response to their mother's calls.

The two families, now depleted in numbers, united. Father and mother, big brothers and sisters, and little brothers and sisters all associated together. When danger

came near, the young of the first brood would take wing and seek safety in flight. On sounding pinions they would burst away with a loud whirr from the very feet of the astonished intruder. Rising but a few yards from the earth they would soar rapidly away to a safe distance and alight again on the ground. The baby ones would run peeping to the nearest leaf or stick or bunch of grass beneath which they could hide.

Thus living together they spent the summer, making their daily rounds through meadow and field and forest; the parents ever watchful for enemies, the young growing larger, swifter of foot, and stronger of wing, while each hour bore them farther and farther from the days of babyhood.

One evening the bobwhite family settled to roost in the long wire grass which grows everywhere in the pine woods. The tall trees wore their habitual coverings of slender green needles, but the bright colors which painted the leaves of the deciduous trees at the back of the farm quickly revealed to the eye that autumn had come.

Only twelve of the partridge family of thirty now remained. Their history, like the history of every bird family, had been a series of tragedies, as one by one their numbers fell a prey to some enemy, a fate which sooner or later must befall even the strongest and the swiftest bird.

This afternoon they had been feeding in the field, eating weed seeds as well as grains of corn which had been left on the ground at harvesting. As insects become less numerous in the fall, the birds must depend more and more on a diet of this character.

All in a bunch the covey of partridges crouched with their tails together and heads pointed outward in all directions. The farmer's dog, while scouting about with no apparent object, passed near them. In an instant they were all upon the wing, each taking a separate course. Two of the number did not come to earth but flew up on the lower limb of a pine near by. In a few minutes the "scatter call," consisting of two or three low, anxious notes, was being sounded as the members of the disunited family sought each other again before going to sleep.

One of the birds in the pine tree tarried for a time on his new found perch. Just what happened to him will never be written. But this much is known. The big swamp owl was very noisy that night, and his calls were answered by another which was not his mate. The old inhabitant appeared to be quarrelling with a stranger, as at this season of the year many barred owls come into the country and swell the owl census considerably. Indeed so boisterous did the two become that an old colored man

living on the place remarked, "De ole swamp owl am sure mad at somethin' tonight."

The next morning while riding along the border of the swamp I was surprised to find a large barred owl sitting on the ground in a most dejected manner. Its wings drooped listlessly and the top of its head was bare of feathers and the skin was raw and bleeding. Evidently it had experienced a terrible whipping. Bobwhite feathers were scattered about. I took the wounded owl up on the horse with me, but he died within a mile, sitting on the pommel of my saddle. His stomach contained no signs of a partridge feast although I strongly suspect he knew what became of the solitary bird which alighted on the swaying pine bough. Perhaps he had caught it but, before he could eat his victim, had been robbed of his booty by the old swamp owl, who had devoured it after giving its captor a rare beating. At any rate the swamp owl's calls the next night indicated that he was still alive and apparently happy.

The young were now full grown, and a prettier, plumper covey of partridges could not have been found in the country around. Sometimes the chickens when wandering about the fields would meet the bobwhites and all would hunt and feed together. Once they went back together to the farm yard. It was a still Sunday afternoon and all

was quiet about the house and barn. The old cat lay out on the shed roof asleep in the sunshine. The boy, wearing his best clothes, had gone away with the horse and buggy some time before. The dog was nowhere in sight. In company with the hens the partridges scratched and wandered about the yard.

Just back of the kitchen was the potato house, a small log structure partially sunk in the ground and roofed with bark. Through the open door of this a hen jumped down to the floor two feet below. Others followed, and soon one of their small friends joined them.

As the farmer chanced to be crossing his yard he heard a commotion among his hens at the rear of the house and also saw the partridge family running down the garden fence. Approaching the door of the potato house he beheld a bobwhite running with low, anxious notes back and forth at the far end and vainly seeking some opening for escape. Creeping toward it with lowered head and twitching tail was the ever-hungry house cat.

With a loud "scat" the man sprang forward. He soon held the trembling partridge in his hands. For a few moments he kept it to admire its beauty. The shining coat, the beautiful beaming dark eyes, and the short, stout beak all spoke to him of elegance and usefulness. It was a female, he knew by the buff color on its throat and head.

Had it been a male these feathers would have been white. Her heart beat in quick, heavy throbs against his hand. With all his heart he pitied his prisoner, and soon raising high his hand he let go the bird. Away she went speeding across the yard and over the garden, her short round wings bearing her at a rapid rate. Far down the field the farmer watched her fly until with a turn and a flutter she dropped into the grass by the rail fence. Long did the memory of that day's fright burn in her mind, and greater grew her distrust of cats and men.

The season for gunning was approaching. Already the farmer's son had been hunting gray squirrels in the thick woods back of the farm, and one day he shot a large black fox squirrel from a pine near where the bobwhites were crouching in nervous anxiety. Soon their turn came. The covey had just crossed from the pine woods into the pea-

nut field, which was being well rooted by the fattening hogs, when they became aware that they were being watched. With a warning cry the father bird ran, followed quickly by the others. When they were well in line running down a furrow near the fence there was a loud "bang," and three of their number died in a great agony of fluttering.

It was unsportsmanlike, this shot of the farmer's son. Some men would not have fired until the birds had taken wing, thus giving them at least a chance for their lives. But this hunter secured partridge meat by his course and that was what he wanted. From this time on a more diligent watch was kept for men with guns.

Lured one bright day by the number of peas to be found in the upper end of the field, the flock wandered farther than was their custom. In the midst of their feeding a low warning note from one of their number indicated danger. No running this time. Up and away they sped with lightning-like rapidity. Whither, they did not stop to consider, their one desire being to escape. "Bang, bang," sounded the gun, but every bird kept straight on. Over the garden fence they went. The farmhouse had recently been repainted. Whether its white sides deceived them, or whether being blinded by the sunlight they saw not their danger, it would probably be difficult to explain, but

straight against the north side of the building several of them flew headlong with resounding raps. Half stunned and breathless the frightened birds crept across the yard and through the fence,—all but one, which lay dead and bleeding by the house.

Much of happiness the bobwhite family knew, although there was much of watchfulness and anxiety and sudden terror mingled with their joy. One of their number was taken in a trap and carried away to the kitchen along with a Carolina dove captured the same day. Another was chased by a hawk and made its escape only by flying directly into the open stable door, much to the astonishment of the hens that were scratching there.

Still another was struck by a shot that fatal day in the peanut field, but had been able to make its escape with the others. When cover was reached it had picked the feathers out of the wound in its side and cleared away the blood, doing the best it knew for its hurt. But the heavy sickening pain in its body continued. All day it crouched trembling or ran on after the others when the dread of being left alone came upon it. It tried to ease its pain by eating certain berries or leaves which old Mother Nature whispered in its ear might be good. Through the long hours of that autumn day it knew no joy, only sorrow was in its heart, and a great fever was in its brain, and a swim-

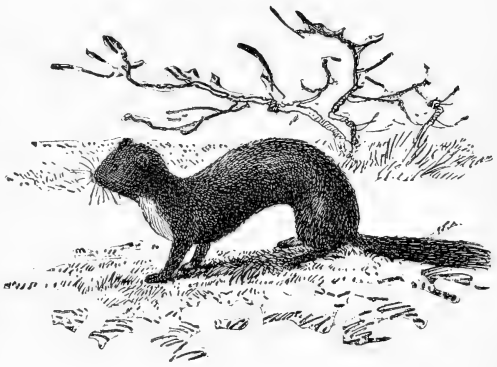
ming dizziness was in its eyes. At times it struck with its beak hard and wantonly into the ground where it lay, as if seeking a solace there. A choking thirst almost stifled the piteous notes of complaint which at times escaped.

As the evening came down the gathering call of the family sounded over in the field. The bird endeavored to rise, but the exertion only resulted in spasms of pain and it lay hopelessly fanning the ground with its wings. Oh! the agony of that day, and the hours yet to follow! The dews of night, which soon began to gather, revived the bird a little, but this only made it more conscious of its sickness as the hours of darkness wore on. There it lay alone beating out its life in the forest. There was no sound save the sounds of the night, the singing of the crickets in the grass, the croaking of the frogs down in the swamp, and the distant baying of the farmer's dog.

Gliding through the grass among the shadows of the pine trees, here and there, but ever nearer and yet nearer to where the stricken bird lay, came something which seemed to be only a slender, softly moving shadow. Its nose touched the ground and the grass blades; quickly it looked up and eagerly sniffed the air. A slight sound reached the bird's ears; its head turned, and close by in the darkness blazed the two small red eyes of its most dreaded enemy, Weasel, the blood-thirsty. With a desperate spring

the partridge fluttered wildly away. One, two, three yards it had gone and then the soft arms of Weasel, the bloodthirsty, closed about its neck. Two sets of sharp teeth met, there was a despairing cry, a flutter of wings and the night sounds in the forest went on as before.

The days of the winter months were drawing to a close. One afternoon late in February the bobwhite family, now numbering only eight, was lying in the sand of a road which ran through the woods half a mile from the farm. They scratched and kicked the warm dry dust upon their sides and backs, and had the delicious pleasure of feeling it scatter and sift down between their feathers. The sun yet rode high in the heavens and the day was warm, for in this Southland but little frost comes to chill the earth, and snow is unknown. While thus they lay and drank deeply of the bliss of existence, the sky gradually became overcast and a thin haze settled in among the pines. It tainted the

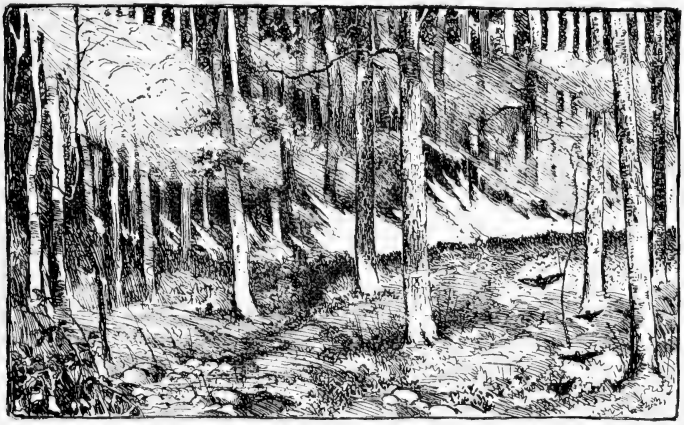


air for the nostrils, and clung burning to the eyes and eyelids. More overcast became the sky, thicker through the trees drifted the smarting haze, while deep and low came an ominous rumbling, borne before the breast of the west wind.

The partridges lay still and watched and listened. The darkness grew, the rumbling increased to a roar, now mingled with a medley of snapping, crackling, crashing sounds. The birds arose and shook the dust from their sides. The forest was on fire. Along the west and girting about to the north and south came roaring and rushing the burning flames, the fierce devouring wolves of the fire king. Like an immense pack in some mad race they came rushing on in great leaps, eating down the high hot grass, tossing up their fiery tongues and snapping and snarling in their hideous work. Wrapping about the small trees they quickly stripped them of their foliage and climbed high up the bark of the tall pines, scorching and killing the slender green leaves one hundred feet from the ground. The forest had not been burned over for four years and the accumulated carpet of pine needles, with all their rosin, together with the tall dead grass, was a great feast for the fire.

Dense volumes of smoke arose which at times drifted low and shut from view the oncoming flames. A flicker

flew by, fleeing for his life. High above the tree tops the Arredondo sparrow hawk and his mate circled, calling through the sky, ready to strike upon the wing any of the insects which were endeavoring to escape from the consuming furnace beneath. With low notes of uneasiness the bobwhites turned and ran, but the flames gaining upon them they took wing and sped away toward the fields to the



east. But alas, their only course of escape was cut off. To save his fences, the farmer had set a back fire, which now with savage roar came leaping to meet the wild fire from the forest. The helpless birds dropped to earth, for they had never learned to soar high enough to pass this encircling volcano of fire and smoke.

Near the spot where two of them pitched was the home of a gopher turtle, a hole dug deep in the earth by this land reptile of the Southern pine woods. A gray fox, exhausted with speeding before the fire came panting by; it saw the hole, paused a moment, then crept far down its darkened course. The two birds, moved by some impulse, followed their dreaded enemy into the earth for a yard or more, and crouched trembling in the sand.

A moment later the fire wolves swept over them with their awful fierceness, sending down their hot breath threateningly into the gopher's hole. For a moment the birds' lives swayed in the balance, then the fire passed on and they were saved.

Again the land throbs with the life of springtime. The heavy dew rests on the corn blades and grass, while ringing through orchard and forest floats the whistle of a bobwhite. The farmer hearkens with joy to the well known call, but the memory of Nature's inexorable law of the birds comes forcibly to his mind, for of all the partridges of his farm the summer before, but a single pair remains.

THOUGHT QUESTIONS

What do people call bobwhites where you live? How do men catch those you see alive in market? Do you think a bobwhite has to watch out for dangers more than you do? What color are the eggs and how many are found in a nest? Do you ever see bobwhites perched on trees? Why do you suppose the fox did not try to catch those which went into the gopher hole with him?

LEVY, THE STORY OF AN EGRET

IN the scattered growth of button bushes covering a small marshy island in a southern lake, several pairs of American egrets for some years built their summer habitations. They made no effort to hide their bulky nests, which were simply placed there in the bushes, the most of them barely a yard above the mud. Their greatest enemy was man and hardly could they have found a place more free from his inroads than this island in a sequestered lake.

But we sought out their village one March day, my companion and I, and when we scraped the slimy mud from our feet and trousers, and clambered again into the boat,

we bore with us one of their young. He was an awkward creature with long weak legs and slender toes. Thin white down covered the dark green skin, and the wing quills had been growing but a short time. His neck, which was long and slender, he kept drawn in. His bill was slim and pointed. His pale yellow eyes looked out in startled wonder, or moved in fright whenever he was seized with a desire to clamber out of the boat. When we put forth our hands to detain him he squawked piteously.

At length our prisoner settled quietly on the centerboard case, and sat looking back at the old parent egrets which now like fragments of white clouds came floating back to their nests of eggs and young.

Poor little egret! He knew nothing of the world but the island and the lake. Now against his will a boat was bearing him from home far across a waste of waters. What lake shores would his feet yet tread, through what space would his wings yet carry him? Would they sometime bear him back to his home on the island? It was we who thought and asked these questions; the bird, more probably, was speculating on the possibilities of escape, or wondering when he would be fed again. Indeed, before many hours had elapsed, it became the general opinion that contemplations of the latter subject occupied the greater part of his time.

Just outside the water lily leaves which fringed the shore I dropped my hook baited with worms taken from the lily stems. Several nice perch were soon drawn into the boat. With these we strove to feed the youngster, but he positively refused to take his food in the manner we served it. He had been accustomed to put his beak between the mandibles of his mother's bill and receive his food from her throat.

It was evident that he must be taught a different way of eating. So he was caught by the head and his mouth forced open. This rough treatment he resisted with all his force, screaming and twisting his head in an effort to draw it away. At the same time the nails of his toes scratched seriously the bare hands that held him. A long finger thrust sent the piece of fish well down his throat; then it was quickly swallowed.

After this performance was repeated a few times it became necessary only to place the food in the bird's beak to get him to swallow it. The second morning, unaided he picked his food from the ground and, with a jerk or two of his neck, sent each piece home in a twinkling. The number and size of the fish which this young bird devoured was something astonishing. Including beak, neck and tail he measured little over a foot, and yet half a pound of fish was for him but an ordinary lunch.

From the moment he arrived in camp and was tied out to a tree he became the master of the territory over which his string would allow him to move. One of the dogs whose curiosity prompted her to come too near was severely pecked on the nose. Losing his balance when the stroke was given, the bird fell on his back, and there lay kicking and squawking while the dog retreated to a safe distance.

Upon breaking camp we put the bird in the rear of a wagon among a mixture of pots, cartridge belts and hammocks, named him Levy in memory of the lake, and headed for home.

Before half a mile was covered a loud strangled squawking brought me clambering back over the outfit. There lay Levy on his back, kicking out with his long legs most earnestly. He was choking on the leg and foot of a dead fish hawk which he had undertaken to swallow. His appetite knew no bounds.

Later, in the garden at home his greed for fresh beef was even greater than his appetite for fish had been. He seemed never satisfied with eating until he could swallow

no more; even then it would be but a short time until he appeared as hungry as ever. Such serious inroads were made on the family larder that soon the egret was brought into disfavor with the heads of the household, and when one day he pecked and instantly killed a young chicken, the parental wrath fell heavily upon Levy and his keeper.

Hence it came about that the next day I bade farewell to Levy and left him standing on the margin of a lake on Horse Prairie, some miles away. He must now earn his living or perish. It seemed bad to treat him thus, but such had been the decree at home and there appeared no help for it; and his captor was young and possessed few resources.

A year later I drove one day by the shore of the lake on Horse Prairie. Two hundred yards away in the shallow water stood a magnificent American egret. It was over three feet tall and its entire plumage was a spotless white. On its back between the wings grew many long, airy plumes which fell waving far beyond its tail. The skin of the bare portions of its legs were black; its long bright yellow beak flashed like a dagger in the sunlight.

With a spring the bird launched into the air and with slow deliberate wing strokes flew for a quarter of a mile down the shore and alighted. It was the embodiment of elegance and grace of movement. Probably I had never

seen the bird before, and yet I could not help thinking that possibly this was Levy, and at once began to speak of him as such. This was childish, but I was a child, and thought as a child. Chancing to be passing that way frequently during the next few days, I saw each time an egret, doubtless the same bird, haunting that stretch of the shore. Others could be seen on the marshes at a distance.

In the tall bushes, growing in a secluded pond in the swamp half a mile from the lake, a small colony of herons had their nesting home. Here the egrets of that region, to the number of half a dozen pairs, likewise built their nests. Learning of this from a squirrel hunter, I accompanied him one day to the spot. The scene which met our eyes was not a pleasant one. We had expected to see some of the beautiful egrets about their nests, or standing on the trees near by. But not a living one could we find, while here and there in the mud lay the lifeless forms of eight of the birds. They had been shot down and the skin bearing the plumes stripped from their backs. Flies were getting in their work and they swarmed up with hideous buzzings as we approached each spot where a victim lay.

This was not the worst. In four of the nests young orphan birds could be seen. They were clamoring piteously for food which their dead parents could never again bring them. A little one was discovered which, now past suffer-

ing, lay with its head and neck hanging out of a nest. On higher ground the embers of a fire, and the scattered straw where a horse had been fed, gave evidence of the plume hunter's recent camp.

The plume feathers of each bird killed were worth at that time ninety cents in Jacksonville. From there they were shipped to certain great millinery houses in New York, where in due time they were placed on the market and sold as "aigrettes" for decorations on ladies' bonnets.

Egrets are shy and difficult to approach at all times, save when in the neighborhood of their nests. Here the poor birds are loath to leave their young, and return again and again within range of the concealed hunter's gun. It is during the season of rearing their young that the plumes are at their finest,—another reason why the hunters seek to kill the birds in their breeding places.

Possibly all twelve of the egrets which lived here were slain. It may be that some of them escaped and fled to wilder recesses of the swamps. At any rate no more were found about the heronry in the woods that year. The bird which haunted the lake shore and the ones seen in the marshes did not come again to feed in their old wading places.

The next spring I visited the nesting site of the egrets but found only the old nests fast falling to decay. Rarely

is an egret now seen about the waters of Horse Prairie. When man comes and slaughters and exterminates, Nature does not restore.

THOUGHT QUESTIONS

Have you ever seen an egret? The egret gets its living as it wades about in the shallow water. What do you suppose it eats? Have you seen the "aigrettes" on ladies' hats? If you had known Levy do you think you would care for aigrettes on your hat?

THE QUEST FOR THE CORMORANT'S NEST

A LONG black line appeared upon the horizon and bore down upon us, a pulsating, waving battalion of three hundred great birds flying abreast. Over the waves of Pamlico Sound they came, their long wings almost touching the water with every stroke. From the deck of our vessel we watched them cross our bows, as they winged their way far into the glare of the sinking sun to a spot where a low-lying island of shells reared its back above the water. Here among hundreds of their fellows they alighted, and drawing their sable wings about them sought the rest and sleep which the night should bring.

This island is situated in a nook of the North Carolina

coast called Yesocking Bay. It was the roosting place not only for the cormorants which fed in the neighborhood, but also for those which mustered from all the region lying between Roanoke Island on the north and Hatteras Inlet on the southeast. About these waters they lived, singly or in flocks, and procured their living by diving and capturing their prey from the abundant schools of fish, such as the shad, herring and menhaden, which swarm in the sound. In spring they are supposed to leave for the North, and it has been said by ornithologists that the summer home of the cormorant did not extend to North Carolina.

A few weeks later we again approached the island as the sun went down, and as no cormorants were seen gathering there, we might have been led to suppose that they had all departed for the North, not to return until the autumn. However, we found it to be otherwise. Sailing down the sound, we could see here and there seated on a channel stake or buoy a great black bird, rearing its head on a long slender neck nearly three feet above its perch. Now and then one would rise from the water and, making straight for the mainland, would disappear in the forests on the shore. They were especially numerous in the neighborhood of Beaufort, where the people from long familiarity with the birds have named them "Nigger Geese," or "Bogue Sound Lawyers."

We had often thought and often tried to prove that about the inland lakes a few miles from the coast, or in some of the fresh-water swamps, these birds must rear their young. That spring we had gone into the swamps and searched about the lakes from the upper end of Albemarle Sound southward along the coast one hundred miles or more, to Old Topsail Inlet. For eight weeks the search was in vain; the secret breeding place of the cormorants was still unknown.

One morning late in May our expedition moved away from the railway station of Havelock and headed southward through the pine forests of Craven county. After ten miles of travel through a barren country with scarce a human inhabitant, we halted near an old plantation. Our light canoe was launched in a large ditch dug by negro hands to drain the land in the days of slavery. Sitting flat in the bottom of the canoe we presently emerged from the shadows of the cypress swamp and passed out upon the shallow waters of Lake Ellis.

Then for three miles we paddled, while blackbirds and marsh hens called to us from the reeds along the shores and the islands, and great white egrets floated like fragments of snowy clouds across the sky above, or viewed us from some far standing cypress top. On the west side of the lake the canoe was taken from the water, and we pushed

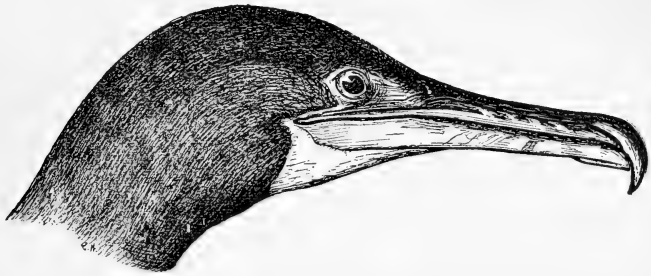
on another mile, first over a marsh, then through a tangled jungle of vines and forest trees, the guide carrying the canoe inverted over his head. Here the tracks of the wild deer and gray squirrels were abundant.

Again our canoe was launched and we found ourselves floating upon the body of water known as Big Lake. For seven miles it spread before us, a beautiful rippling sheet. For two-thirds the distance the shore is lined by a dense cypress swamp, the remaining portion being clothed with a barren pine pocoson. The timber everywhere grows down to the water's edge, and many cypress trees and stumps stand well out from shore like giant forest monarchs who have waded knee deep into the cooling lake. Many of these contain the immense nests of the osprey, the fierce fish eagle of the ocean and lakes.

Herons also, of several species, had built nests for their young here and there on the boughs of the overhanging trees. Probably not more than once or twice a year does a boat of any kind ever float on this secluded lake. There are no dwelling houses for miles around and the wild creatures here are seldom disturbed. A doe and her fawn coming down to the water to drink eyed us from a distance for many minutes before taking fright. Two large alligators floated quietly in our course, making no effort to

keep from sight until the double discharge of my gun awoke the echoes along the shore.

In this region my guide had said that we would surely find the nests of the "nigger geese," and it certainly



seemed that at last we might be approaching the summer haunts of the cormorant, for the place appeared free enough from the intrusions of man to suit the tastes of the wildest bird. And we found them! Low spreading cypress trees, their tops reaching as a rule not more than twelve or fifteen feet above the water, were the sites chosen for the nests. Eighteen trees, scattered along the shore for a mile and a half, were thus used. A few trees contained only one nest each, some were occupied by two, while in others six, eight, ten, and even twelve nests were noted. One tree contained thirty-eight cormorant houses, each with its eggs or young birds. The number of occupants to the nest was in all cases either two or three. One hundred and fifty inhabited nests were counted.

In color the eggs are a pale bluish white overlaid with a more or less soft calcareous coating, and measure about two and a half inches in length by one and a half in width. The nests were made entirely of dead twigs and small branches, with often a few green twigs and leaves placed at the top. The structures were usually about one foot across.

The food of the cormorant at this season of the year must consist largely of the common eel. In nearly every nest signs of the eel's remains were seen. The young birds upon becoming excited would disgorge fragments of eel flesh. An old bird which was captured had the slime of eels about her head, neck and bill. We tried for a time to keep this fierce, wild mother cormorant, but she bit so fearfully, and struggled so constantly, beating the air with her large black wings and tail, and scratched so seriously with the sharp nails on her large webbed feet, that we were soon glad to liberate her.

The young birds were covered with black down, and many of them were large enough to leave their nests and climb about the branches of the trees. In doing this they would often lose their balance on the limbs while endeavoring to escape, but instead of falling into the water the hook at the point of their long bills would invariably catch on the perch, and by dint of much scratching the birds would soon regain their former position. Queer fellows were

these baby "nigger geese," which were being reared here amid the wild surroundings of a Carolina lake.

Cormorants live in almost all countries of the world. To find them, however, one must look along the sea coast or about large lakes where the supply of fish is abundant. There are twenty-five kinds of cormorants, and they all bear a close resemblance. They have heavy bodies, long necks and short stout legs. While perched they stand very erect and the stiff feathers of their tails serve as a prop, or a kind of third leg, for their support. The feathers of nearly all species are glossy black.

In China the people have learned that cormorants can be tamed and taught to be very useful as domestic animals.

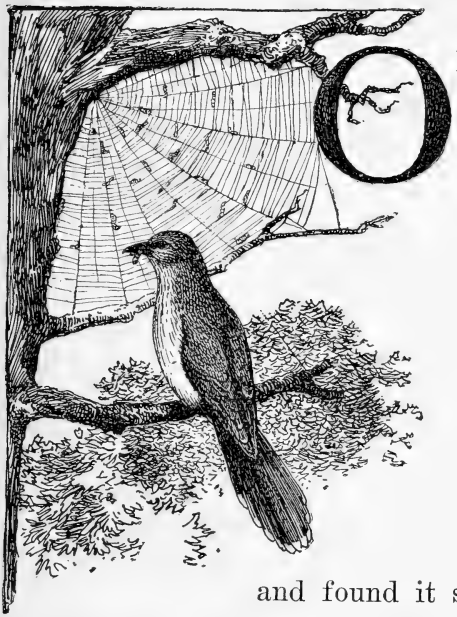
The way in which the birds serve their masters is this: They are taken to a river or lake, a strap is placed about their necks, and they are liberated. Once in the water they dive in quest of fish. When one comes to the surface with a struggling victim in its mouth, and finds itself unable to swallow its prey on account of the strap, it at once swims to the boat and the boatmen relieve it of its prize. Once free, the faithful fisherman again dives beneath the surface, only to repeat the performance.

We have not yet learned to tame the cormorants in our country and make use of them as do the Chinese. The old birds we saw that day on Big Lake were far from being tame. Upon our approach they left their nests and, after flying wildly about for some time, settled on the water several hundred yards away. Here they remained until, as we passed on around the lake, they left the water in a body and rising gradually, went winging rapidly back to their ancient breeding grounds, back to their hungry, clamoring young.

THOUGHT QUESTIONS

What is the largest bird you have ever seen? Do you think it was larger than a cormorant? Can you name any birds besides cormorants that eat fish and eels? What other birds can you recall that are black? What other birds and domestic fowls have webbed feet? Where do web-footed birds live?

CUCKOO, THE RAIN PROPHET



ONE cloudy autumn afternoon while strolling along a woodland path I heard a weird mournful voice plaintively calling for many minutes. The sound seemed to come from a cluster of trees across the glen near by. After a little time I came up with the sorrowing creature and found it seated on the drooping bough of an old gnarled oak. It was a yellow-billed cuckoo.

Some of our birds had already departed for their winter visit to the tropics, but the cuckoo still tarried in the haunts of its summer home. It seemed to feel the solitude of the autumn forest, and although its voice is seldom heard at this time of year, it was now chanting its plaintive cry as if

its heart was breaking at the thought that summer was over. It was sitting crosswise on the limb and was motionless except for a slight upward impulse of the body each time it called.

As it did not see me at first, there was good opportunity to notice its appearance. It was about the size of a robin but was more slender; its long tail was over half the entire length of the bird. Its legs were short, and its small feet grasped the limb on which it sat, with two toes extending outward in front, and two behind. The bird's back and wings were olive brown, and its under parts were a dull whitish color. The outer tail feathers were black with white tips. Its bill, which appeared to be nearly an inch long, was black above and yellow beneath.

Soon the bird detected the presence of an intruder. For a few moments it eyed me, as the cuckoo will often do, in a dazed kind of way, all the time slowly raising and lowering its long tail; then swiftly it flew and vanished through the foliage. It could not have gone very far; for as I went farther along the path, from the distance there came to my ears the faint murmuring, "*Cow, cow, cow,*" of the sad, mysterious bird.

The cuckoo always leads a mournful, secluded life. If we chance to see it at any time while it is with us, from May to October, it will most probably be observed silently

slipping from the cover of one tree or thicket to that of another, generally alone, and frequently uttering the harsh gutteral note from which it has long since acquired the name "rain crow." I never have understood why it should be called a crow. Certainly it does not resemble the crows in our country either in voice, appearance, or manner of life.

The cuckoo is often heard calling on cloudy days, or just before rains, and for this reason it is usually accredited with the power of foretelling the coming shower. It cannot sing; but it has some notes peculiarly its own, which, once heard, are not easily forgotten. "*Tut-tut, tut-tut,*" it seems to say, "*cl-uck-cl-uck, cow, cow, cow.*"

In Europe there is a bird called the cuckoo. It is larger than our bird by that name and, besides, is quite a pretty singer. It is not shy; so a great many people are acquainted with its habits. It was well known when the Bible was written, and you can find its name in the list of animals which the Children of Israel were forbidden to eat. Shakespeare in one of his plays tells us about the cuckoo's young. Some of the English poets speak of its singing.

The earliest English lyric poem begins in this way:

"Summer is i-cumen [coming] in,
Lhude [loud] sings cuccu;
Groweth sed [seed]

And bloweth med [mead],
And springeth the wde [wood] nu [now]
Sing cuccu."

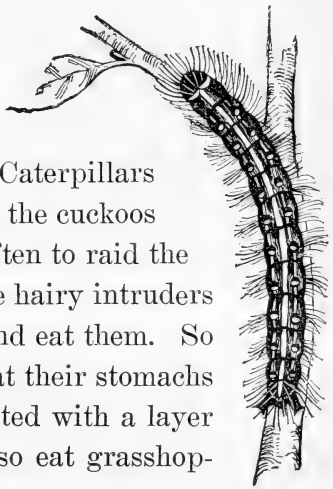
Of all the tales told on the English birds, the one relating to the nesting habits of the cuckoo must reflect the least credit on the accused.

In the spring when the nesting time for birds arrives it does not build a nest for itself, but quietly steals away and deposits its eggs secretly in the nests of other birds. There the eggs are incubated and the young are reared by the foster parents. While the cuckoo thus saves itself the labor of building a nest and the anxiety of caring for the young, it has gained for itself an unpleasant notoriety, possessed by few other birds. In this country the black cowbird has the same habit.

Our yellow-billed cuckoo has learned the art of nest building but poorly, the nest in which the young are reared being little more than a mere platform of twigs. Indeed, so thin and frail a structure is it, that the eggs can often be counted through the nest from beneath. It is usually placed on some sheltering limb or among thick vines. The eggs are nearly an inch and a quarter long and are about three-fourths as wide. They vary from two to four in number, and their color is greenish blue. Many birds lay their eggs, one each day, with great regularity until the

full number has been reached. The cuckoo, however, often allows a few days to pass after she begins setting on some of the eggs before the others are deposited. Thus there are sometimes found a young bird, an incubated egg, and a freshly laid egg, all in the same nest.

Among the branches of our fruit trees we may sometimes see large webs which have been made by the tent-caterpillars. An invading host seems to have come and pitched its tents among the boughs on all sides. Caterpillars are quite destructive to trees, and the cuckoos do us a great favor by coming often to raid the encampment. They pull the little hairy intruders out of their tents by hundreds, and eat them. So many are eaten by these birds that their stomachs are often found to be thickly coated with a layer of caterpillar hairs. Cuckoos also eat grasshoppers and different kinds of flies.



In some parts of the United States, especially in the South, the surface of the country is quite level and the soil is of sand. There are found here large tracts of pine woodland, sometimes with no other kinds of trees growing near. In these great pine forests the cuckoos are seldom seen; and in such regions, if we wish to find them, we must search

by the lakes and along the streams where other kinds of trees are growing.

The cuckoo family is a numerous one. There are one hundred and seventy-five known species, thirty-five of which are found in the New World. In the United States we have three species. These are the yellow-billed cuckoo, the black-billed cuckoo, and the mangrove cuckoo. The latter does not occur in large numbers.

THOUGHT QUESTIONS

How early in the spring have you seen the cuckoo? Does it live among the trees, or in open places? How does the cuckoo fly, slow or fast, high or low? Is the cuckoo useful to fruit growers? If so, how? What kinds of notes does it make? Do cuckoos ever go in flocks? Do they ever fly about at night like an owl? What is the bird called in your neighborhood?

RUFFLE-BREAST, THE SHRIKE

RUFFLE-BREAST was the name given by some boys to a logger-head shrike which lived a few years ago about the fields and orange groves of a small town in Florida. The bird was so called on account of the peculiar appearance of its breast, there being a row of feathers across the front which appeared to have grown in the wrong direction, thus rendering it impossible for the breast to be smooth as in other birds.

Our first acquaintance with Ruffle-Breast was made in this way. A pair of shrikes one season built their nest in the main fork of a small oak tree growing near one of the public highways which led into the village. No one disturbed the nest until the eggs were hatched and the young had been fed for some time. One day a boy climbed into the tree to see the little birds. As he did so the nest seemed

to explode like a bomb as the five frightened young shrikes launched out suddenly into the world on their untried wings. One gained the lower limb of a neighboring tree. Another reached the middle rail of a fence. A third, while vainly trying to cling to the side of a hitching-post, fell scratching and fluttering to the ground.

The resemblance of these young birds to each other was strong. The feathers of their backs were grayish brown and those of the breast were white, marked with dusky bars. Their wings and tails were brownish-black and a dusky stripe was on the side of each stout chubby head. Their beaks were sharp, hooked, dangerous looking weapons.

The one which sat in the crack of the fence had an odd ruff of feathers on its breast, which distinguished it from all other shrikes. Many times during the next few weeks the shrike family was seen. The little ones were soon strong upon the wing, and had learned to catch grasshoppers and other insects for themselves. But so long as there existed the slightest chance of their being able to secure food from their parents, they never failed to beg with pitiful voices and quivering wings whenever either parent was near. As the summer advanced the family became separated and scattered.

Now the brownish tinge left the feathers of the breast

and back, and each became in fact a grown bird. Their general appearance was now not wholly unlike the mocking bird for which they are sometimes mistaken by casual observers. Ruffle-Breast was seen less frequently now, and in the autumn it finally disappeared from its haunts of babyhood and I saw it no more for a time.

Early the next spring while crossing a field in which stood a few neglected orange trees, I heard the eager calls of a shrike issuing from among the leaves of one of the smaller trees. The notes were recognizable as those of a male anxiously seeking to assist its mate in selecting a suitable nesting site. Just then the female alighted on a neighboring tree with an answering call. I looked up and there before me sat Ruffle-Breast, my old acquaintance, she of the fence crack. It was a great pleasure to meet her thus with a mate and the prospect of a nest not half a mile from her own birthplace.

A crotch in the orange tree six or seven feet from the ground was settled upon as a suitable site for a nest, and at once the construction of a home for their eggs began. First, twigs and small weed stalks were brought, and on the platform made by these, other materials, such as grass blades, roots, strings and pieces of cotton were placed and woven tightly and snugly together. Finally the structure was completed by a layer of soft chicken feathers. Then

the mother laid her eggs, brown-speckled beauties, one each day until there were five in the nest.

During the two weeks, or a little over, occupied in incubating the eggs, Ruffle-Breast was seldom seen, and was never away from the orange tree long at a time. Usually her mate could be found in the vicinity of the nest, perched on some tree top or high fence stake silently watching for insects to appear in the grass or on the ploughed field; for the shrike never hunts its food, but waits patiently until its prey comes within reach and then pounces upon it. Sometimes the bird will pause in mid-air on hovering wings and scan the earth below for the sight of some coveted prize.

Upon capturing a grasshopper or cricket or beetle, the shrike often impales it upon a thorn and, using this as a sort of tablefork to hold its victim, proceeds to make a meal. If not hungry it will leave its prey thus transfixed for hours, returning later in the day to eat it. From this habit of hanging up food and leaving it, the bird has long since acquired the name of "Butcherbird." During the colder part of the year when there are few insects to be procured the shrike subsists mainly on other kinds of animal life. It catches mice, and even small birds at times fall beneath its strong beak. I once saw a shrike endeavoring to carry away a small dead chicken.

One afternoon while watching a company of feeding sparrows, Ruffle-Breast, who chanced to be roving about the field, perched on a tall stake near by. At the first sound of her harsh grating voice the sparrows became nervous. Two or three fled to the friendly cover of a cedar tree, but the others remained where they were, moving cautiously about in the grass and speaking only in subdued tones. Their uneasiness continued until the shrike resumed her journey across the field. The sparrows did not regard her with the terror which they would have shown had the visitor been a hawk, nor with the unconcern which they certainly would have manifested towards a crow, but the feeling seemed to prevail in the company that they did not care to be observed by her. Perhaps they felt much as children do when playing in a yard and a large and much dreaded dog passes along the sidewalk.

A few days later I had an opportunity to observe an incident which showed clearly that the sparrows had abundant reason to dread the fierce gray bird which prowled about their feeding ground. I noticed a bird flying heavily across the field. It seemed to be carrying something which hindered its flight, for every few yards it would light on the ground. Presently it reached the edge of the woods and perched among the limbs of a fallen pine tree. Upon a near approach I found the bird to be none

other than Ruffle-Breast, the shrike. She was tugging on one of the limbs at an object which she seemed reluctant to leave. When she flew I found that the burden she had carried to the tree was a chipping sparrow. It had been thrust on a sharp splinter protruding from one of the broken limbs and the bird had already begun to feed upon it. The skull had been broken open at the base. The brains and parts of flesh from the neck had been eaten. A little villain she was indeed! Yet she was no worse than other shrikes, and during the two years of my acquaintance with her she was ever a faithful and gentle mother to her little ones.

She reared two broods that summer; the first nest containing five eggs, the second six. One spring her second nest was disturbed by a boy who thought it belonged to a mocking bird. He took the eggs, saying that he was going to hatch them under a hen. Ruffle-Breast and her mate then left the orange tree and sought a safer place for their home on the limb of a pine thirty feet from the earth.

It was interesting to watch these birds fly to their nest. Across the field one would come with rapidly beating wings, flying close to the ground until near the pine, when with a sudden upward sweep it would rise, climbing the invisible ladder of the air to its nest. Sometimes the father bird would attempt to sing in an odd, squeaking, guttural

manner. Such attempts were performed apparently with great effort, and the music produced was never of a very high order.

In going through the pine woods of Florida the traveler often comes upon a negro cabin in a small clearing. Here are usually growing two or three orange trees, a Spanish bayonet plant, and perhaps a dozen live oak trees of different sizes. For the past two miles of his journey the traveler has found no shrike, but here at this diminutive plantation, if the season be March, he is sure to hear a loggerhead calling loudly and continuously from the top spray of some tree, or flying down before him to seize a beetle or grasshopper from the grass. A search in the orange or oak trees will soon reveal its nest, a wonderfully strong affair built of sticks and vines and a great quantity of chicken feathers.

Farther on a shallow pond is found, about whose shores are growing a few water oak trees. Here is another good place to look for the loggerhead's nest. Thus one may move on for days through the high pine woods and rarely see a shrike except about the farms or ponds where the thick foliage of the orange or oak trees furnish them with suitable nesting places.

THOUGHT QUESTIONS

What time of year do you see the shrike? Do shrikes prefer sparrows to

other kinds of food? Do you know of any other birds besides hawks and owls that sometimes kill and eat small birds? On the whole do you regard the shrike as a good bird or not? Does the shrike rear its young where you live? Is the shrike's sharp-hooked beak fitted for pecking in the bark of trees like a woodpecker's?

THE CITY OF THE LONGLEGS

ON the banks of a certain river in the South, a few miles from its mouth, lies a large rice plantation with its broad fields extending along the bottom lands. Half a mile from the river is a bluff, which at some remote date may have served as the bank of a much larger stream. There on the high ground, surrounded by magnificent live oaks, stands the large house of the planter. Behind the mansion is a garden, and behind the garden are more rice fields, while beyond these stretch away for miles unbroken forests of pine and cypress.

One summer while visiting here I noticed about the rice fields numerous large birds wading in the shallow water. All seemed stilted on long, slender legs. Occasionally one would thrust out its snakelike neck and strike at some-

thing in the water with its sharp bill. Evidently they were feeding on the small fish which were so abundant here. Three species of birds could be seen. One of these slender waders, which stood about twenty inches high, was of a dark slaty blue in color. This was the little blue heron. Another variety of similar size and form had wings and neck marked with varying shades of brown, gray and white, while its entire under parts were yellowish white. This was the Louisiana heron, the bird which on account of its rare beauty and elegance of movement is sometimes called "lady-of-the-waters." The largest of all the birds were nearly four feet tall. These, the people of the plantation declared, were "blue cranes," but they were, in reality, great blue herons.

Now and then one of the birds would rise from the feeding grounds, fold its long neck, stretch its legs out behind, and come flying in from the river high overhead, making straight for the forest. Sometimes one would come from the opposite direction and drop down into the rice fields. It seemed odd that so many should be coming and going in the same manner. Upon inquiring the cause, my host explained that back in the woods there was a place where each year the birds congregated in great numbers to build their nests and rear their offspring. "These you see fly-

ing over," he continued, "are old ones carrying food to their young."

One day he took me to visit this annual gathering place of the herons. On the rear side of the plantation is a pond formed by a stream which was dammed to furnish water for flooding the rice fields. It extends for a mile or more into the woods. At the upper end it divides into three branches, which like long arms reach back into the wilderness for a considerable distance. At the far end of one of these arms the herons had their city.

In a growth of young cypress trees covering an area of not more than an acre their nests were built. As we approached, the birds could be seen in numbers flying from place to place. Many were resting on the branches of the trees while others were feeding their young. Two inquisitive fellows, sentinels possibly, came out for a better view of us and our boat, but soon flew hurriedly back, squawking loudly as they went. Their sounds of alarm could not have attracted much notice amid all the squeak-squawking of those hundreds of noisy tenants and their young, for the colony as a whole took no heed of our arrival. Only those nearest us as we passed took fright.

The nests of the little blue and Louisiana herons were simply slight platforms of dead twigs placed loosely together in the crotches of the cypress limbs, from four to

eight feet above the water. Usually they were not over eight or ten inches across, and often were so frail that the four or five blue eggs they contained could be counted through the structure from beneath. So closely do the nests and eggs of these birds resemble that it was only by hiding and watching until the owners came that we were able to distinguish between them.

In many cases the eggs had hatched. The young blues, covered with white down, were very pretty creatures. When grown their feathers are white, and not until the summer of the second year does the coat of blue appear. In some cases the young are said never to acquire the blue covering, but go on through life as white birds. The young Louisianas resembled their parents in color; only, of course, they wore suits of soft down instead of feathers.

In some tall trees at one side of the heronry the great blue herons had built their large platforms of nests on the horizontal limbs high in air, and their great babies in a dozen or more places were seen standing gazing silently off through the forest as though absorbed in thought. So large and fine looking are the great blues that my friend called them the "kings" of the city. The splendid plumes of their heads and backs, together with their dignity of bearing, surely bore out the comparison.

In one place two pairs of quite different herons, together

with their nests, were found. They were nearly as tall as the great blues, but the special feature of their appearance was their coverings of beautiful snowy feathers. These birds were American egrets. Long white plumes growing on their backs and extending far beyond their tails also added to their attractiveness. I like to think of these graceful creatures as the queens of that city.

Wishing to get a peep into the private life of the heronry, we concealed our boat among the low trees and screened our bodies with long gray moss and cypress boughs. Scarcely were we hidden when the herons began to return to their homes. While we were watching, a crow flew up and alighted near a nest containing eggs. After a wicked glance around he thrust his beak into an egg, and, flying with it but a short distance, perched and deliberately began to eat its contents. Finishing his egg the rascal wiped his bill on the limb, looked about for a minute or two, and then came back for another one. The distressed heron whose nest was being plundered, squawked a timid resentment and moved away as the intruder approached. That day we saw five or six crows thus engaged in pilfering the homes of the defenseless herons.

It was meal time with each brood of longlegs whenever a parent arrived from the rice fields. The curious manner in which the young were fed was one of the most interest-

ing things we witnessed. An old bird upon coming home would alight on the edge of the nest, or on a limb close at hand. With a peculiar pumping motion of its throat it seemed to bring the food up its long neck and hold it in its mouth ready for the little ones to feed upon. One at a time they would reach up and thrust their bills into the open mouth of their parent to receive their portion.

The diet of the baby herons must have consisted largely of small fish, for when we attempted to row our boat among the tree trunks beneath the nests, they disgorged large quantities of partially digested minnows, possibly in their efforts to drive us away, or perhaps because of their great uneasiness. In fitful streams these descended upon us, falling in the boat, in our laps, in our pockets or down our necks. Our journey through the city of the longlegs was fraught with much anxiety and watchfulness, as well as peril to the appearance of our garments. There were over one thousand occupied nests in this place.

Probably there are other enemies to the eggs and young birds besides crows. In one nest we saw a large water snake lying coiled about an egg quietly enjoying a sun bath. We were unable to learn, however, whether snakes eat the eggs of the heron. The eyes and snout of an alligator were seen protruding from the water in a little open place among the tree trunks. Possibly this monster lived here and was

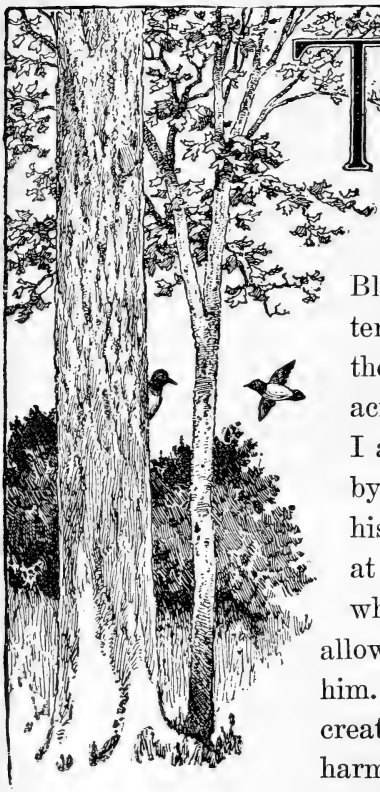
ever ready to snap up any unfortunate nestling which might fall from its platform of twigs.

The feathers of herons are much sought for decorating women's bonnets. Whole colonies of nesting birds are sometimes destroyed for this purpose. It is to be hoped that no plume hunter will find this heronry and for this reason I refrain from mentioning its location. There are many such cities of longlegs in the South, although their number is becoming less each year on account of the onslaughts of the plume hunter.

THOUGHT QUESTIONS

Have you ever seen a crane, heron, or other long-legged bird? If a bird's legs are long is it necessary for its neck to be long also? Why? Did you ever see a bird feed its young like the herons do? How do hens feed their little ones? How do sparrows feed their young? Make a list of all the water birds you know.

A QUARTET OF WOODLAND DRUMMERS



THERE is a cheery little neighbor of mine living among the trees of a grove whom I should like to have all my friends meet. He is a little downy woodpecker. Black and white spots are scattered all over his wings, and there is just a stripe of red across the top of his black cap. I am sure you would know him by his small size, his colors and his trustful manner. He is not at all suspicious of people and when hard at work will usually allow anyone to come quite close to him. He is a quiet, modest little creature who never does anyone harm, and so far as known has but few enemies.

Downy is the smallest as well as the most active of our

woodpeckers, and always appears to be busy. We may often see him climbing up the huge trunk of some old oak tree, pausing a second here and there to rap on the bark with his bill to learn if all is solid wood within. Again he will pause as the peculiar sound given back from his tap indicates that an insect is lurking within. Then the resounding blows of his little pickaxe fall thick and fast, sending the chips in every direction. In vain does the plump larva feasting on the sap of the tree retreat into its hole. A gleam of daylight shoots into the burrow, and an instant later the spear-like tongue of the woodpecker has impaled its victim and jerked it forth. Then on up the tree Downy goes, perhaps without further incident until well among the limbs, when suddenly he flies to a neighboring tree, dropping as he does so to a point near its base, and begins to ascend this trunk as he did the one before.

He is the natural watchman of our fruit trees. He hunts out the moth's eggs laid in the crack of the bark and eats them, thus preventing a brood of caterpillars from hatching and eating the leaves of the tree. He finds the eggs of the beetle and eats them, also, before they can hatch out into the wood-boring larvæ, which sometimes girdle and kill the limbs.

Thus Downy labors on, day by day, through the year,

destroying millions of harmful insects, which if unmolested would do a vast injury to the groves and orchards. For all this service he never eats any of the fruit of the trees he guards, but, when in need of a little vegetable diet,

goes to the berries of the dogwood, or woodbine, or pokeberry. Occasionally he eats a few weed seeds just for variety. Downy is sometimes called "sapsucker," and is accused of pecking holes in the bark of trees for the purpose of getting the sap. But Downy is not the guilty

party. The bird which does this is another kind of woodpecker. The small holes which our little friend makes in trees do not even reach the inner bark, except when he is bent on securing some harmful intruder.

Like the most of our woodpeckers, Downy is a resident throughout the year wherever found, and seems to enjoy equally all seasons. When you find him in your orchard on a bright, cold morning in January, he has the same busy, contented air which you must have noticed when first making his acquaintance, perhaps on some warm spring day. He appears so happy and buoyant at all times that one wonders if he does not have hid away under his little white waistcoat a perpetual fountain of the ecstacy of springtime and youth.

He likes cheerful company, especially in the winter, when most of the forest voices are silent and the cold winds are howling around the trunks of the sleeping forest trees.

He then hunts up his friends, the little gray tufted titmouse and the light hearted chickadee. Together they spend much time in bands, patrolling the woodland, searching out from their hiding places the eggs of insects stowed away under the bark waiting for the warm

spring sun to hatch them. A dozen or more birds are thus often found together.

They form a merry company, these little forest rangers, and never lack for music as they march. The shrill piping *peto, peto, peto* of the titmouse mingles with the tenor drum *tap, tap* of Downy's bill on the bark, while ever and again the chickadee, a mere bundle of nerves and fluffy feathers, "merrily sings his *chick-a-dee-dee.*"

Not merely for company do these birds thus associate, but for mutual protection as well. Twenty pairs of sharp eyes are more likely to see an enemy approaching than is a single pair, and it is well for a small bird to keep a sharp lookout at this season of the year, for it is more readily seen by a hawk in a leafless winter wood than it is in a shady summer forest.

Like all other woodpeckers, Downy's mate lays white eggs. These are usually four or five in number, and are placed on a bed of fine chips at the bottom of a hole, which both parents have helped to dig, usually in the under side of some decayed limb of a tree. Nature is not prone to use her coloring matter on eggs which, like the woodpeckers', are hid away in dark holes in trees. When the little ones are hatched, Downy and his mate are kept very busy

for a long time bringing them worms to eat, for the little woodpeckers have great appetites which seem never to be satisfied.

There are thirty-six varieties of woodpeckers which occur in various parts of North America, four of this number being known over a greater portion of the region. The Downy is perhaps the best known of all. Another bird which is sometimes mistaken for Downy comes to the grove. Along in October when the maple leaves begin to turn red and drop down as if to hide their blushing faces in the withering grass; when the blue haze hangs along the horizon, and all the plant world seems going to sleep after its summer's work, we awake some morning and find a stranger in our garden. We hear his plaintive cry falling on our ears from off the trunk of some tall fruit or shade tree. Let us hasten out of doors and look for him.

There he goes up the side of a tree very much as Downy travels. We can tell by the way he moves that he is a woodpecker of some kind. In appearance he is much like Downy, but seems to be a little larger and more slender. There is more red on his head, too, and he wears a red patch on his chin. During the night he has arrived from his summer home in the far north, and he has come to stay with us awhile. All winter long we may hear his complaining cry in the grove about the house. He is really a

northern bird, for his true home is where he mates and rears his young.

His name is "yellow-bellied sapsucker." This is the

kind of bird which perhaps girdled the shade tree in your yard last spring by pecking so many holes in it to drink the sap. He is the true sapsucker, and is fond of the juice of many kinds of trees. The sap of the apple tree he regards as especially pleasant, and often turns there for his

cider. He goes to the sugar maple for his syrup, to the mountain ash for his wine, and in the North indulges much in his favorite cup of hemlock.

The sapsucker is not the only one that likes the sap of trees. In the country where he makes his summer home, insects of many kinds are said to gather around the little wells he makes and lean over to draw up the sweet juice through their tube-like mouth-parts, somewhat as a boy might drink through a straw the clear water from a woodland spring. Several kinds of little people go there to feast; there are flies of different sizes and colors, and there are gnats, and an occasional yellow jacket. Ants, too, climb up the trees and elbow their way among the others for their share.

While all this is going on, many of the company get their feet mired in the sticky juice which has been spilled about the edges of the spring and are there held fast. Pretty soon the sapsucker comes back for his dinner, when lo! he finds that some one has been stealing it from him, and there are the little thieves caught sure and fast. He does not appear to be at all angry at this but hops about and cheerfully snaps up and eats all the insects he can find, and turns to catch others buzzing near. Some observers think that the sapsuckers do not do this very often, but confine their diet almost entirely to sap. It would be

interesting for some one living in the country where the sapsucker makes his summer home, to watch the bird closely and learn to what extent he really catches insects.

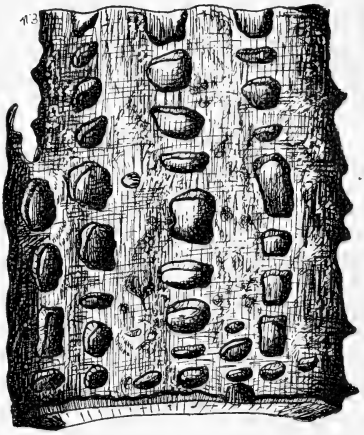
Unlike Downy the sapsucker never digs into dead wood for the larvæ of insects, and if he did his tongue is not long enough to reach into their holes and spear them out of their hiding places; besides, the end of it is more like a brush, and for this reason is better adapted to gathering up sap than to spearing insects.

For several years a sapsucker (possibly not the same bird always) has each season visited a small balsam growing in a frequented lawn near my home. In the autumn he begins his attack and a few small holes are dug through the bark for sap, but by far the larger amount of his work is done in the spring. This year when the sap first began to rise the sapsucker came out of the woods and commenced operations on the balsam. He is a wonderful carpenter and the way he made the chips fly with his sharp bill was astonishing. Hour after hour he toiled on, cutting scores of holes through the bark to the solid wood beyond. In a few days hundreds of these little wells had been sunk and the sap rose in them in abundance.

The bird would cling to the side of the tree, braced by his tail, and drink the sweet juice from the holes, one after another. As they ran dry, day by day, other holes were

chiseled. Usually these openings were made in rings about the tree or in rows up and down its side. I counted forty-two holes in one vertical line. These were mostly about the size of a lead pencil, but a few were an inch and a quarter long by three-fourths of an inch wide. Some of the holes are less than a foot from the ground and they occur at intervals for twenty feet, or fully two-thirds the distance to the top. The perforations were confined chiefly to the trunk of the tree, and in only one case was a limb assailed.

During the month of March new holes were made daily and on the twenty-ninth the bark showed one thousand six hundred and seventy-one unhealed openings which had been made this spring. Hundreds of old scars bore mute testimony to the workings of the sapsucker in previous years. The accompanying picture is that of a piece of bark four inches in length by a little less than four inches in width which was cut from the side of the tree twelve feet from the ground. It gives a good idea of



the appearance of bark which has been subjected to the sapsucker's bill. Undoubtedly trees sometimes die as a result of the serious attacks made by this little red-faced carpenter.

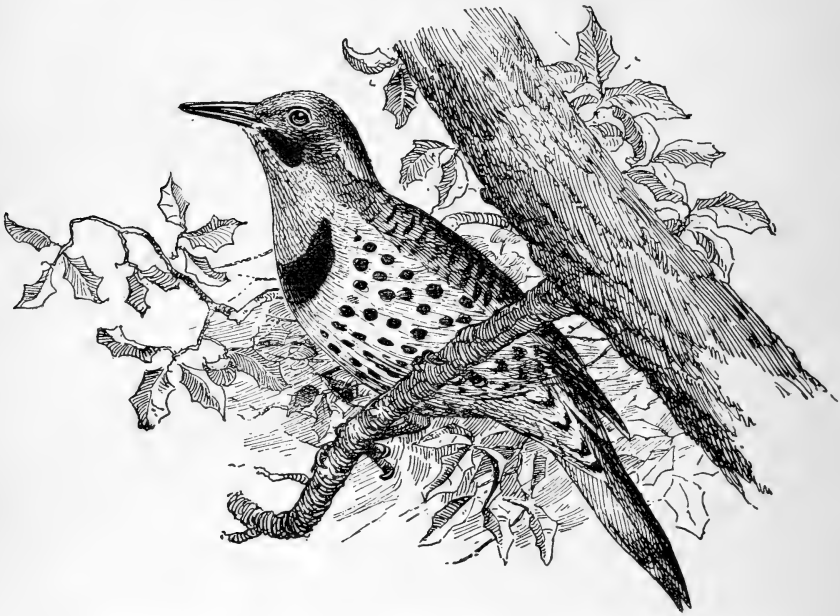
When April drew near and Nature, awaking from her long sleep, began to whisper joyously to the buds on all the trees to push out of doors, the sapsucker bethought himself of his northern home. He was accustomed to come each morning for his sap, usually about half-past seven o'clock, and would feed for half an hour or an hour. After breakfasting on the morning of April the first, he flew to a large white oak near by and beat a loud drum call several times on a resounding piece of bark. Over in the edge of the woods there was another roll from a dead limb, an answering signal. It came from another male bird which sometimes appeared on the lawn. The meaning of this was clear; the spell of spring and nesting time was strong upon them; it was the call of kind to kind, and I felt that their time for departure was near. For four mornings longer the sapsucker came, but on the fifth he did not appear, although I came early to watch and waited long in the hope of seeing him. The tugging at his heart had become too strong to resist, his love was calling to him out of the north, and he could not tarry longer. I shall watch with gladness for his return in the autumn, for although he may

some day kill the pretty balsam, the loss of one tree is a small price to pay for the knowledge and pleasure to be gained by watching him from day to day.

One April day while passing through an unused field I came to the spot where a large tree had once stood. During a storm some years before, it had been broken by the wind at a height of twelve or fifteen feet from the ground, so now only a tall decayed stump was left standing. Up its side, a little higher than one could reach with a walking cane, was a hole about the size of a large apple. On the ground beneath were many little pieces of wood like small chips.

It appeared that some one had been cutting a hole in the old dead stub. A low, vigorous pounding was going on inside, so I tapped on the wood with my knife to see if the workman within would appear. In a moment a long bill was thrust out of the hole, followed by a light brown chin and a pair of black eyes, which looked sharply down as if to ask what business I had there. Again I tapped and out flew a bird a little larger than a robin. Its breast was spotted, a large white patch was plainly seen on the lower part of its back, and there was much yellow about the wings and tail. It was a flicker, the bird which many people call "yellow hammer." This tree was her tower, and there high in that upper room, which she and her mate

were chiseling out with their bills, was to be her nest. Lord and Lady Flicker they were, who would soon be living here in their tall wood castle, safe from hawks and weasels and cats. What a cosy place it would be for the



little ones, tucked away in that great house with such thick walls all around!

Next day I came and hid by the flickers' tower to watch. Soon with strong rapid flight the male came racing through the air and landed near the doorway of his castle. How strong and wild he looked! Proudly he threw up his

slightly curved bill and sent forth a call such as only a flicker can give. His manner was majestic, as though conscious of the fact that he wore a coat of more varied colors than that of any other woodpecker in the whole country.

There was a long black spot on each side of his face, such as men call burnsides.

Soon the lady bird came and perched near her mate. Though she had no burnsides, she had a strip of red across the back of her head, as though it was her hood which had almost slipped off backwards. How oddly Mr. Flicker acted when she arrived! What strange antics he at once began to perform! He bowed low to his mistress, and spread his pretty yellow wings like a cloak, as he swept now forward, now backward. He stepped sidewise and danced gracefully back again. He bobbed, he bowed, he displayed his every charm. A brave wooer was he as he laughingly, pleadingly, coaxingly called to her in his mellowest and most enticing voice. He said many things I could not understand, but *"Yu'ch, yu'ch,"* was what he seemed most to say. The flicker is a devoted and demonstrative lover, and he pays homage to his loved one at home or afield wherever he meets her.

Another day I came to watch the young birds get their dinners. Of this I could learn but little, for when an old one would come home nothing could be seen in its bill, and

yet it must have carried food, for the trips to and from the nests continued at intervals of several minutes all the day. Those who have had opportunity to watch the birds closely tell us that the old flicker feeds the young with the food from her stomach. She puts her bill into the mouth of the little one and feeds it by a process of regurgitation. Whether hungry or not the baby birds were always ready to cry out at the least disturbance or scratching on the wood at the mouth of the hole. When annoyed they would make a sharp hissing noise quite like the blowing of a hog-nosed adder.

I wished to see the nest in which the little flickers were reared; so, late in the summer after they had grown up and flown away over the fields, I cut the old stump down and, splitting it open, soon had before me the inside of the flickers' nursery. It was somewhat gourd-shaped, the entrance hole being at the end of the handle and the largest part being at the bottom twelve inches below the opening. On the floor of the cavity was a thick carpet of very fine chips for the family to rest on. The walls were much scratched and scarred by the climbing in and out of many claws.

The flicker is more of a ground bird than any other of our woodpeckers. He is fond of digging in the fields and pastures for grubs and earthworms. His bill is not straight and chisel-shaped at the end like that of other members of his family, but it is slightly curved like the bill of a thrush and is quite pointed, a thing which aids him much in digging. He drives it into the ground much as one might drive a pickaxe, making the clods fly in a lively manner.

Often the flicker will attack ant-hills, spading the nests out with his powerful bill, and eating the ants and their larvæ in numbers. Different kinds of fruit and berries, such as cherries, mulberries and wild grapes, add variety to his bill of fare. In the early winter, when other fruit has become scarce, he enjoys a few persimmons now and then for his dessert. But his bread of life is a diet of ants, and he has been known to eat as many as three thousand at a single meal.

From five to seven white eggs are usually laid. When all but one of these are taken out of the nest flickers have been known on some occasions to continue laying one a day for a long time, as does a domestic fowl. A flicker near Greensboro, North Carolina, laid in this way more than thirty. One in Massachusetts once laid seventy-one eggs in seventy-three days.

I know a gentleman living in a grove about whose house the birds are always abundant. I will tell you his method of keeping them near him. One winter there was a deep snow which lay for a long time upon the ground. At the same time the weather was bitterly cold. The birds suffered much for lack of food and hundreds were frozen to death. One day a flicker came into his house through a crack above a side window, and pecked about on the shelves and chairs hunting for something to eat. When the man of the house came into the room the flicker, in an effort to escape, flew against the window and fell fluttering to the casement. The gentleman took the bird in his hands and, finding it to be very poor, knew that it must be almost famished. It then occurred to him that all the other birds must likewise be suffering and maybe the flicker had come to let him know about it. So he at once set about to devise some means of feeding them.

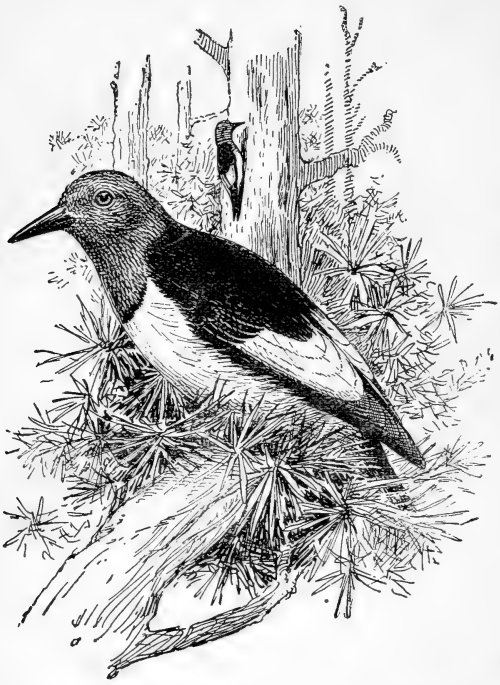
Taking a short board he nailed it to a tree in his yard in such a way as to make a shelf. On this he sprinkled cracker crumbs which contained some seeds, and a piece of suet, but no salt. Within an hour a chickadee discovered the dinner on the board and at once helped himself. Soon a pair of hungry nuthatches were on the spot. The news spread rapidly and day by day the good man had the pleasure of watching many kinds of little feathered people

gather to the feast. Since that time he has never failed to keep food in his yard for the birds. If you would like to observe a flicker where you can approach close enough to see his red head-stripe and black burnsides, come with me some winter day when the snow lies deep, and we will visit the birds' banquet table spread by the good man who lives in the grove.

Skirting a path along which I am accustomed to pass each morning is a row of old, scraggy locust trees. These are the regular haunts of numerous birds in the summer, and even in winter they are not deserted, for the bluebirds and meadowlarks frequently perch on the bare branches, and the white-breasted nuthatches wander much up and down the trunks. Another bird seen here nearly every day the past winter was a flashing red-headed fellow with white breast and black back. A large patch of white also was on each wing. He would cling to the side of a limb, with two toes on each foot pointed forward and two pointed backward, and brace himself with his tail against the bark while he pecked on the wood. The size and actions of this bird of course clearly indicated that he was a woodpecker, and his colors revealed his name—the red-headed woodpecker.

Only a small per cent of the woodpeckers of this species spend the winter months in North Carolina, for possibly,

as some have suggested, the supply of food may be limited. Having this in mind I began to suspect that our fine bird was getting his daily food from some dead limbs of the locust trees in which he daily busied himself. He dug long ditches into the rotten wood and as a result quantities of chips lay on the ground beneath, as evidence of his industry. It must be insect life of some kind that he is looking for, I often thought, and yet on more than one occasion I detected him in the act of eating acorns. One morning after a strong wind had been blowing I found that a large dead limb had fallen across my path. It was one of those on which the woodpecker had spent much time. So much decayed was it that in falling it had broken into several pieces, thus dis-



closing numerous chambers and galleries running through the wood. In these here and there were crowded hosts of black ants taking their long winter sleep. Many of the galleries had been opened from the outside by the woodpecker and robbed of their occupants. Here then was an explanation of his actions. In an old rent on one side from which a small limb had been broken four acorns were found, two of which were perfectly sound. They could not have lodged there in falling from an oak. They must have been carried there, possibly by some little fourfooted animal, but more probably by the redhead himself, as in other places he has been known to do this. Perhaps he had acorns also stowed away in other chinks of the old locust trees, but of this I did not learn.

The redhead is such a handsome fellow that it is hard to think of his ever doing anything unpleasant; and yet at times he is a very bad bird, probably the worst one of the whole family. It is told of him that he will sometimes go to other birds' nests and eat their eggs. He is accused not only of being a rogue, but a murderer as well. Downy's friends, the titmouse and the chickadee, know him well, and it is whispered that they have on more than one occasion caught him plundering their nests. There is small wonder then that Downy dislikes the redhead and often disputes with him for the possession of some favorite limb or post.

In summer the bird lives largely on fruit. He will light in your cherry tree, seize the ripest fruit within reach, and in another moment be off for some frequented limb at the edge of the grove, where he likes to carry his food before eating. Here on his high dining table, he holds the cherry down with his foot and eats it at his convenience. Then he wipes his bill on the limb, using the bark for a napkin, and soon comes back for another piece of fruit. Besides plums and cherries he likes to eat grapes and berries. Many kinds of insects also go to supply his mouth with good things.

In Florida I have known the redhead to pick holes in oranges and drink the sweet juice. An orange grower once showed me a device he employed for killing them as well as the red-bellied woodpeckers which in like manner pecked his fruit. He had placed a long slender pole up through the tree in such a way that one end rested on the ground and the other protruded above the boughs. Often a bird coming for a draught of juice would first alight on this natural perch. A man hidden beneath would then strike the pole a sharp blow with an axe or heavy club.

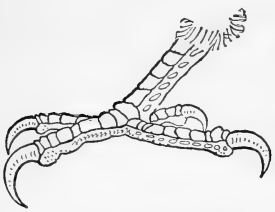
The violent jar transmitted to the upper end was usually severe enough to kill the bird.

The redhead visits the corn fields during roasting-ear time. He will tear the husk open at the end until he can see the milky white grains so snugly tucked away in rows. After eating his fill he leaves and does not return to the same ear, but when hunger again calls him to the field he attacks a new one. The corn raisers of course object to this pilfering in their fields and some of them make it a point to shoot at the thief whenever they catch him in the act.

In flying, the redhead does not travel in a straight, even line as many birds do, nor does he soar as many others, but goes swinging up and down through the air in long billowy sweeps. When you see one start across a wide field it is worth the while to stop and watch him; the sight will well repay you.

Like the flicker, this woodpecker digs a cavity for his nest in a dead tree. Five eggs are generally found in a nest. If the bird is robbed it will not keep on laying an egg each day, but will in the course of two or three weeks deposit another set of four or five. If these are taken the bird will often try a third time to rear a brood. I once knew a pair of redheads which had their nest rifled four times, nineteen eggs in all being taken. Then they left

their nest in the stump and dug out another in a tall dead tree where the boy who had robbed them before could not molest them further. Late that summer I saw the young ones flying about the grove with their parents. In appearance they were much the same as the old ones, but the head and neck of each was a grayish brown. Not until many months had passed did they get their red feathers.



The bird has many call notes, although it has no song. One which it often uses in the summer resembles closely the note of the common tree frog, and it is said that the bird and frog sometimes answer one another; each possibly thinking it is calling to one of its own kind. The strongest note of the redhead is given when he sounds his love-call from the dead resounding limb of some tall tree. It is produced by striking the hard wood very rapidly with his bill. As he hears his loud stirring signal go re-echoing through the woodland, he settles back on his perch until, faintly borne to his listening ears, comes the well known answering tap of a beloved bill, and he starts up to sound a reply.

To me this is one of the most stirring notes in nature. Among the earliest scenes which I can recall is the sight of one of these birds sounding his drum from the top of a

tall dead pine near my home, and as the years go by, I turn each spring with ever renewed interest and pleasure to hearken when I catch the drumming roll of the red-head's love-call.

THOUGHT QUESTIONS

How many kinds of woodpeckers do you know? Do they all have red on their heads? Which species has the most red on its head? Are downy woodpeckers ever seen among the trees in town? Will the downy harm the fruit or vegetables? Will it do the farmer any good? Should it be killed? Does the downy leave us when the winter comes? Tie some suet to the limb of a tree in your yard next winter, and watch for a downy to come and eat it. By how many names have you heard the flicker called? How do woodpeckers fly, by swoops or in a straight line?

WINTER LIFE ON A COLLEGE CAMPUS

ONE autumn day three very odd looking fellows strolled into the college campus near which I lived. They were dressed just alike. Each wore a long tailed gray coat, a white waistcoast, a tall white collar and a black necktie. For trousers they had white running pantaloons. They were bare from a little above their knees down. Although strangers there, they avoided the walks and driveways and spent the afternoon in running foot races on the low open plot of ground at the eastern side of the campus. A carriage came along, going to the ball park. The dog which trotted behind ran out and barked, whereat the three frightened gray-coats tumbled over one another as they rushed off, each loudly shouting his name as he went. The man in the carriage said, "Killdeers, to be sure; I should like to have a shot at them."

Late that night, when the weary athletes had forgotten their bruises and were at rest, three pairs of bare feet came over the fence of the athletic field and alighted on the ploughed and trampled sands. Again the gray-coats chased each other, looking for benighted insects as they ran and shouted in their glee. Out in the starlight I heard them calling to one another, "*killdee, killdee!*" Three

little wanderers had stopped to enjoy our hospitalities. What tales would they have to tell of us when they chose to leave? Three close friends they were, banded for the winter months to struggle against starvation, and snow, and ice; against hawks, and dogs, and guns.

The last week of December was warm and bright. The

days were such as birds much enjoy and they came to the campus in numbers. In all, I counted twenty-one species. A flock of forty-two meadow larks patrolled the campus from gate to gate, through grove and open, searching for food in the grass and among the fallen leaves. A downy woodpecker which lives in the trees near the south building was to be seen each day. Early in the month he had dug out with his bill a cavity for his winter bedroom in the dead limb of a tree standing near the library. So nice and cosy a retreat was it from the wind that early in the evening he would often leave his friends, the chickadee and titmouse, with whom he had romped all day, and hurrying off soon tumble into bed to dream away the long winter night.

Downy had a relative, the little Yankee sapsucker, which came from the far North to spend the winter months on the campus. He did not care for such noisy companions as the downy's friends, so he kept apart by himself, and at intervals during the day would announce his whereabouts by calling out in a plaintive voice.

These two birds have a relative in common which came to the holiday campus. This was their big, clumsy country cousin, the yellow-hammer, or flicker. He hardly knew how to behave himself among those large buildings, and twice during the winter was almost caught while prowling

around inside one of them. He does not hesitate to go in at a window if he finds one open.

One day just before the close of the year I heard a great outcry among the branches of a large Spanish oak near by. I hastened to the window and found that the flicker was in more trouble. A company of blue jays were feeding in the grove. Many were searching for acorns in the leaves on the ground, which when found would be carried promptly up to a limb, and pounded open. While one was thus engaged the flicker's inquisitiveness led him to venture too near, whereupon the jay remonstrated loudly, screaming and flaunting her blue and white feathers about in a most excited manner.

The flicker was evidently quite abashed, and retreated around the limb, chattering something which I thought might be to the effect that she need not make so much fuss about nothing. There were two or three other flickers in the grove and they seemed to enjoy the discomfort of their friend immensely. A moment later one of them alighted on the limb by his side and, bobbing his head in a most odd and quaint manner, offered by way of encouragement his characteristic remark of "*walk-up, walk-up.*"

Just then a sparrow hawk came around the corner of the building and perched on a limb. It was Xantippe, the quarrelsome little lady bird we had watched about the campus

so often the winter before, and we had wondered if she had a mate somewhere. Poor Xantippe had seen much trouble the past year. In the spring she left the campus and went back into the fields to meet her mate, old Socrates, perhaps. A little later some boys found their nest and destroyed it. It was in the natural cavity of a dead tree twenty feet from the ground. Three eggs I believe they said it contained, three chocolate spotted eggs.

The pair must have found another nesting site, however, for in the autumn when Xantippe again appeared on the campus she brought with her not only Socrates but also a pair of young birds. The college atmosphere must have proved too stimulating for the young ones, for they soon left, probably returning to the country.

Xantippe's favorite perch, as last winter, was on one of the goal posts in the athletic park, while Socrates took up his headquarters on the topmost limb of a locust tree just outside the park fence. Here they would sit for hours at a time, flying down now and then to capture some article of food, or else to chase away the meadow larks when they came near. Sometimes both would come and perch near the laboratory, high on the fourth floor, and nod to each other and peep in through the windows. Then the boys would look up from their microscopes and call to each other that the little hawks had come to look on again.

One day just before Christmas a boy shot Socrates. For days his body lay in the rain and wind. At length one of the professors saw it and picked it up saying, "poor bird." He laid it on a pile of coal with its face upturned to the cold gray sky. Then a friend buried the dead bird; buried him beneath the locust tree on which he had loved to sit.

So Xantippe was left alone. Perhaps she was feeling sad this day while the jays were so noisy and the flickers so full of life. Near by, the flock of meadow larks was feeding. Out on the sunny side of a big hickory the sapsucker clung and drowsed. A little farther away Downy and his companions were making their usual amount of noise. From under the eaves of the new east building came the sounds of cooing pigeons. Out in the open ground the killdeers were calling.

Suddenly in the midst of this joy and laughter, feeding and calling, some boys came with their guns. Thick and fast were the discharges, loud and terrible was the roar. With loud shouts the jays fled screaming to the woods. The flickers went racing off in long galloping sweeps, all save one which, with broken wing, lay beating the ground. The sapsucker was shot from his perch on the hickory. Two of the meadow larks failed to escape. Of the unsuspecting pigeons nine gave up their lives. They fell here and there. Their feathers were scattered on the walks,

their dark blood stained the stone steps of the north entrance. It was a wild morning for the birds, their peace and joy were at an end,—the snake had entered the garden. The killdeers fled for parts unknown, bearing with them their tale of horror and woe.

Earlier in the day the hunters had killed a rabbit and some partridges. That night there was a feast. All the game was put together, rabbit, pigeon, and sapsucker; partridge, flicker, and lark, and was

"In the cauldron boiled and baked."

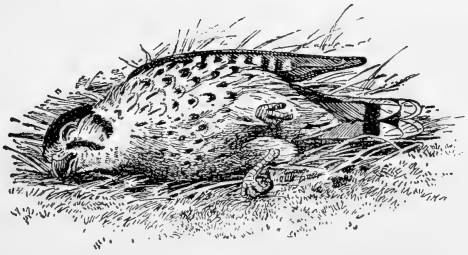
The next day scarcely a bird was to be seen on the campus. The jays kept far back in the large timber. Once a flicker came to the edge of the woods and looked across to the campus and sounded his drum call on a dead limb. But no answering note came back from the silent campus, save, faintly borne to his ears, the laughter of the hunters starting out again, at which he turned and fled back to the cover of the forest.

But Xantippe did not leave. Where else should she go? Just before night she flew up to the new east building, for her roosting place was under the eaves. Surely no hunter would think of eating her; and for what other purpose would one wish to shoot her? Suddenly there was a roar beneath. Pains shot like steel blades through her

body. Blindly, wildly she fled, over the spot where the pigeons had fallen, around the corner of the laboratory, out by the locust tree beneath which old Socrates slept, her head reeling with pain, the hot blood choking her throat. On, on she goes across the open grounds towards the woods, that she may not fall until reaching cover, instinctively avoiding her enemies even in death. Her wings no longer beat the air, they are now set and rigid. Death clutches at her heart and throws his veil before her eyes. On, on she speeds, sinking lower and lower. She passes the campus wall, she nears the line of woods, and now low in the gathering gloom of the evening forest she sinks fainting, gasping, dying,—and the last act of the holiday campus tragedy is at an end.

THOUGHT QUESTIONS

How many kinds of birds did you ever find in the woods or fields on a winter day? Can you name any which appear only in winter? Do killdeers live in your part of the country? Do you know the meadow lark? What color is its breast? What do jays eat besides acorns? Do any other birds eat acorns? How late in the fall of the year will tame pigeons continue to feed their young? Do you suppose a bird really cares when its companions are killed?



APPENDIX I

The questions given at the end of each story are designed to draw out the pupil's power of observation. The teacher will readily supplement these with other questions that will suggest themselves.

The detailed descriptions which follow, together with the range of the chief birds, will assist pupils and teachers in a more technical study of these and other birds.

In making these descriptions the following abbreviations are used: L. represents *length;* W., *wing;* T., *tail;* M., *male;* Fe., *female.*

The length of a bird is determined by placing the specimen upon its back on a smooth surface and measuring from the tip of the bill to the end of the tail. The length of the wing is the distance from the joint nearest the end to the point of the longest wing feather. The measurements are given in inches and hundredths.

THE ARREDONDO SPARROW HAWK

American Sparrow Hawk (*Falco sparverius*).—M.—Back and tail rufous, the former barred with black, the latter with a broad black band near the end. Tip of tail white; head slaty blue with a crown patch rufous; back rufous with a few black spots on lower part; wing coverts slaty blue; primaries black, barred with white; ear coverts white with a black patch before and behind; under parts vary from white to cream-buff; belly and sides spotted with black. Fe.—Wing coverts rufous, under parts streaked with buff. L., 10.10; W., 7.00; T., 4.75. Range.—North America, from Central Canada to South America, west to the Rocky Mountains.

OUR CHIMNEY DWELLERS

Chimney Swift (*Chætura pelagica*).—Sooty brown, sometimes with a faint greenish tinge above, lighter beneath. The shafts of the tail feathers extend beyond the vanes and end in sharp, stiff points. L., 5.25;

W., 5.00; T., 1.90. Range.—Eastern North America, north to Labrador and west to the Plains. Winters south of the United States.

THE CHILDHOOD OF BIB-NECK

Wilson's Plover (*Ægialitis Wilsonia*).—M.—A black band across the breast; lores and front of crown also black; forehead and under parts white; back, cheeks and crown brownish gray; outer tail feathers white. Fe.—Has brownish gray where the male has black. L., 7.50; W., 4.50; T., 1.15. Range.—Eastern coast of America from New York to Brazil; western coast from lower California to Peru.

ROBIN REDBREAST

American Robin (*Merula migratoria*).—Above dark gray except top and sides of head, which are black; a white spot over the eye; tail black; outer feathers white on ends; throat is white, spotted with black. The breast and belly are rufous. Fe. is lighter than male. L., 10.00; W., 5.00; T., 3.75. Range.—Eastern North America from Mexico to Alaska.

AN OLD BARRED OWL

Barred Owl (*Syrnium nebulosum*).—Grayish brown above, each feather with a few white bars; the disk about the eyes is gray, mottled with dark brown; under parts white, tinged with buff; breast barred; sides and belly streaked with buff. Legs and toes feathered. L., 20.00; W., 13.00; T., 9.50. Range.—Eastern United States, north to Quebec, west to Kansas.

THE BIRDS OF COBB'S ISLAND, VIRGINIA

Laughing Gull (*Larus atricilla*).—Head and throat dark slate-color; primaries black, the inner ones having white tips; upper parts dark pearl gray; under parts white. In winter the head and throat are white. L., 16.50; W., 12.25; T., 5.00. Range.—Atlantic coast, from Maine southward. In winter, south through West Indies.

Wilson's Tern; Common Tern (*Sterna hirundo*).—Upper parts pearl gray; top of head black; under parts pale gray except throat, which is

white. The bill is red except outer third, which is black. The feet are orange red. L., 15.00; W., 10.25; T., 5.50.

A PAIR OF EAGLES

Bald Eagle; White-Headed Eagle (*Haliœtus leucocephalus*).—Head, neck and tail white, rest of the feathers dark brown. The bill is yellow and the leg is not feathered to the toes. The immature bird has more or less white mingled with its plumage, but its head, neck and tail are not white until the third year. L., 33.00; W., 22.00; T., 12.50. Extent of wings seven feet. Fe.—Larger than male. Range.—North America from Alaska to Mexico.

BIRD KEY

Man-of-war Bird (*Fregata aquila*).—Black and very glossy above. The Fe. is less black and has a white belly and breast. The bill is six inches long and is hooked at the point. L., 3.50 feet; W., two feet; T., 1.50 feet. Range.—Tropical and sub-tropical coasts of America, common northward to Florida and Texas, casually to Nova Scotia.

Brown Pelican (*Pelecanus fuscus*).—Back of head and neck brown; top of head and spot on breast yellow; sides and back, scapulars, wing coverts, secondaries and tail are silvery gray. The primaries are black; under parts blackish brown streaked with white. L., 50.00; W., 20.00; B., 11.00. Range.—Tropical and sub-tropical coast of eastern America, occurring as far north as North Carolina.

THE MOCKING BIRD

Mocking Bird (*Mimus polyglottos*).—Upper parts ashy; wings and tail blackish brown; inner half of primaries white; three outermost pairs of tail feathers with more or less white. Under parts white. L., 10.50; W., 4.50; T., 5.00. Range.—Southern United States; rare north of Maryland and Kentucky.

THE VULTURES

Turkey Vulture (*Cathartes aura*).—Black with some grayish brown; head and upper neck bare, the skin of which is red. L., 30.00; W., 22.00;

T., 11.00. Range.—From British Columbia southward to Patagonia; rare in New England.

Black Vulture (*Catharista atrata*).—Black; skin of head black. L., 24.00; W., 17.00; T., 8.00. Range.—From lower Ohio Valley to southern South America.

WOOD DUCK LIFE

Wood Duck; Summer Duck (*Aix sponsa*).—M.—Throat, a line over the eye, a broad strip up the side of the head and part of the long crest feathers white. Cheeks and crown green with reflections of purple; chestnut on breast spotted with white, and chestnut at base of tail. Belly white; sides buff, barred with black and white; brownish green back; scapulars darker; primaries tipped with greenish blue. Fe.—Without the crest; other markings less brilliant. L., 18.50; W., 9.00. Range.—Temperate North America.

THE SNOWBIRD

Slate-Colored Junco; Snowbird (*Junco hyemalis*).—M.—Upper parts, throat and breast slate-color; belly white, and sides grayish; two outer tail feathers white, as is also a part of the third. Bill flesh color. L., 6.25; W., 3.00; T., 2.75. Range.—North America, mainly east of the Rocky Mountains; breeds from the Catskills and the mountains of New England northward. In winter it occurs south to the Gulf States.

Carolina Snowbird (*J. h. Carolinensis*).—Closely resembling preceding species, but is a little larger, and the dark parts are without the brownish tinge usually noticeable in that species. Range.—Southern Alleghanies.

A BOBWHITE FAMILY

Bobwhite (*Colinus Virginianus*).—Chestnut above, with some markings of buff and black; rump grayish brown, mottled and streaked with black; tail ash. Front of crown, a strip beneath the eye, and a band on breast black; throat white; sides chestnut, with white and black; belly white, barred with black. Fe.—Smaller, and white of head replaced by buff. L., 10.00; W., 4.50; T., 2.50. Range.—Eastern United States, from Canada to the Gulf of Mexico; west to the Rocky Mountains.

LEVY, THE STORY OF AN EGRET

American Egret (*Ardea egretta*).—Pure white, with about fifty straight plumes growing between the scapulars in the breeding season. The legs and feet are black. L., 41.00; W., 15.00. Range.—Temperate America, from New Jersey to Patagonia.

THE QUEST FOR THE CORMORANT'S NEST

Florida Cormorant (*Phalacrocorax dilophus Floridanus*).—Upper parts glossy black; under parts lighter. L., 30.00; W., 12.00; T., 5.50. Varies much in size. Range.—Along the coast from North Carolina to Texas, and up the Mississippi river to Illinois.

CUCKOO, THE RAIN PROPHET

Yellow-Billed Cuckoo (*Coccyzus Americanus*).—Lower mandible yellow except at tip, where it is black; upper one black. Upper parts olive gray; wing feathers rufous. Outer tail feathers black, tipped with white; outer edge of outer feathers white. Breast and belly white. L., 12.15; W., 5.75; T., 6.00. Range.—Eastern North America; north to New Brunswick; west to the Plains, and south in winter to the West Indies and Costa Rica.

RUFFLE-BREAST, THE SHRIKE

Loggerhead Shrike (*Lanius Ludovicianus*).—Gray above; secondaries tipped with white; tail and wings black; tail feathers with black tips; lores black, with black line running to base of bill; white beneath, washed with grayish. L., 9.00; W., 3.75; T., 3.80. Range.—United States, west to the Plains, northward to New England. Breeds from the Gulf of Mexico to Virginia and casually northward to New Jersey and the Great Lakes.

THE CITY OF THE LONGLEGS

Great Blue Heron (*Ardea herodias*).—"Center of the crown and throat white, sides of the crown black, this color meeting on the back of

the head, where the feathers are lengthened to form an occipital crest; neck pale grayish brown; a narrow black, white and ochraceous line down the middle of the fore neck; feathers of the lower fore neck narrow and much lengthened, whitish with sometimes black streaks; back, wing coverts and tail slaty gray; the scapulars paler, narrow and much lengthened; bend of the wing chestnut rufous; a patch of black and white feathers on the side of the breast; breast and belly streaked with black and white, and sometimes pale rufous; feathers on legs dull rufous; legs and feet black; upper mandible olive yellow; the culmen blackish; lower mandible yellow; lores blue." (*Chapman.*) L., 45.00; W., 19.00. Varies much in size. Range.—North America.

Little Blue Heron (*Ardea cærulea*).—Head and neck dull chestnut; the rest of plumage dark slaty blue; legs yellow. Young for two years are white. L., 22.00; W., 10.50. Range.—From Illinois to South America.

A QUARTET OF WOODLAND DRUMMERS

Downy Woodpecker (*Dryobates pubescens*).—Back, wings and tail black; middle of back and outer tail feathers white, the latter barred with black; wings and wing coverts spotted with white; under parts white, and a white stripe below the eye. The male has a small red bar across the nape. L., 6.75; W., 3.75; T., 2.50. Range.—North America, west to the Plains and south to the Gulf of Mexico.

Yellow-Bellied Sapsucker (*Sphyrapicus varius*).—M.—Back barred with black and yellowish white; wings spotted with white, coverts mostly white; tail black, outer feathers having white margins; white line below eye, crown and throat bright red, breast black, belly pale yellow. Fe.—Has the throat white. L., 8.50; W., 4.80; T., 3.20. Range.—Eastern North America, breeding from Massachusetts northward. In winter it is spread through the Southern States, the West Indies, Mexico and Costa Rica.

Flicker (*Colaptes auratus*).—Back and wing coverts brownish gray, barred with black; rump white; primaries black outside, but shafts beneath are yellow; tail black above and yellow beneath; upper tail coverts streaked with white and black. Top of head and sides and back of

neck ash; a scarlet stripe across the neck; sides of head, throat and breast brown; black cheek spots, which are wanting in the female. Under parts are cream yellow and spotted with black. L., 12.00; W., 6.00; T., 4.25. Range.—North America, west to the Rocky Mountains and Alaska.

Red-Headed Woodpecker (*Melanerpes erythrocephalus*).—Back, wings and tail blue black; under parts, secondaries, upper tail coverts and ends of outer tail feathers white; head, neck and fore breast crimson. The immature bird has a grayish brown head, and secondaries barred with black. L., 9.75; W., 5.50; T., 3.30. Range.—United States, west to Rocky Mountains.

APPENDIX II

Methods for Students and Teachers

Suggestions for Bird Study

The general awakening to an interest in the subject of ornithology has called for the means of gaining a more precise knowledge of the names and habits of our common birds. Many persons are deeply interested in observing the forms and movements of the wild birds, and yet are conscious that their efforts are on the whole not well directed.

Much information concerning the activities of birds can be acquired by observation without the assistance of text-book or teacher; but to become absolutely accurate the need of one or both is indispensable. Those to whom the assistance of a teacher is not possible can at least equip themselves with one of the several excellent text-books which are now on the market. Some of the best of these are:

Handbook of Birds of Eastern North America, by Frank M. Chapman.
(D. Appleton & Co., publishers. Price, $3.00.)
Birds of Village and Field, by Florence Merriam.
(Houghton, Mifflin & Co. Price, $2.00.)
Manual of North American Birds, by Robert L. Ridgway.
(J. B. Lippincott Co., Philadelphia. Price, $7.50.)

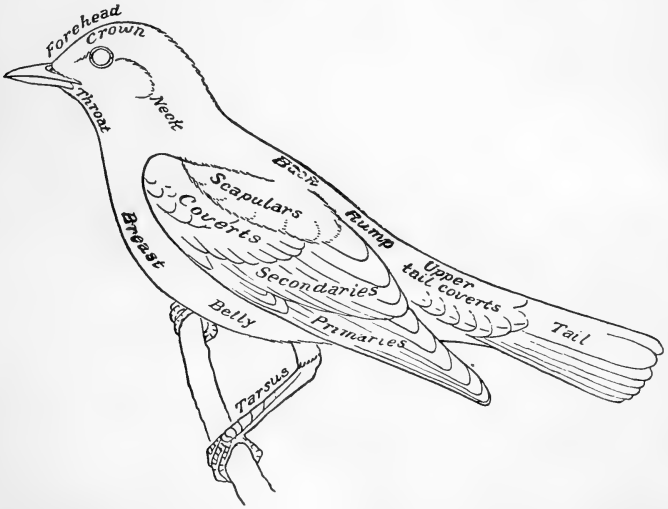
Equipped with one of these books the most inexperienced observer is ready for work, though the aid of an opera or field glass will greatly assist one's efforts.

Let us imagine that the first bird observed is a red one. The color is probably the first thing that arrests the attention. You quickly note whether it is red all over, its size and its movements. You discover that it appears to be a little smaller than a robin; that it has no crest on its head; and that it is not hopping upon the ground or soaring in the sky,

but that it is on a limb of a tree or among the boughs. Does it have a song? What are its call-notes? On what is it feeding, berries or insects? And if both birds are present, is the female colored like the male? These are questions which quickly suggest themselves.

In short, observe everything of interest; form, color, size, call-note and whatever else there is to see, and quickly make in a notebook a memorandum of your observations. Then with the assistance of the "key" in your handbook you can easily determine the species, which in this instance would be either a male cardinal grosbeak or a male summer tanager.

Should the student have a dead specimen he can take the dimensions, the chief of which are: First, length from bill tip to tail tip; second, distance from last joint of wing to the point of the longest wing feather; and third, length of tarsus. All the different parts of the bird that it is necessary to observe for identification are indicated in the following diagram, which should be carefully studied:



The ornithologists named below have kindly expressed their willingness to assist, within the range of territory over which they are recognized as authorities, those who may have any difficulty in determining a species.

They will also gladly give any information concerning the literature on the birds of their region, and answer any other questions of an ornithological nature.

ALABAMA AND GEORGIA.—Dr. Eugene E. Murphey, Augusta, Ga.

ARIZONA.—Herbert Brown, Yuma, Arizona.

ARKANSAS, LOUISIANA AND MISSISSIPPI.—Prof. Geo. E. Beyer, Tulane University, New Orleans, La.

CAROLINA, NORTH.—T. Gilbert Pearson, Greensboro, N. C.

CAROLINA, SOUTH.—Arthur T. Wayne, Mount Pleasant, S. C.

COLORADO, NEVADA AND UTAH.—Wells W. Cooke, Fort Collins, Colo.

DAKOTA, NORTH AND SOUTH, AND WYOMING.—Dr. Mortimer Jesurun, Douglas, Wyo.

DELAWARE AND MARYLAND.—F. C. Kirkwood, 1500 Bolton street, Baltimore, Md.

FLORIDA.—Robert W. Williams, Jr., Tallahassee, Fla.

ILLINOIS.—Benjamin T. Gault, Glen Ellgin, Ill.

INDIANA.—Amos W. Butler, State House, Indianapolis, Ind.

IOWA.—Prof. F. E. L. Beal, Department of Agriculture, Washington, D. C.

KANSAS, OKLAHOMA AND INDIAN TERRITORY.—Prof. D. E. Lantz, Manhattan, Kansas.

MICHIGAN.—Walter B. Barrows, Agricultural College, Mich.

MINNESOTA.—Dr. Thos. S. Roberts, 1603 Fourth avenue, South, Minneapolis, Minn.

MISSOURI.—Otto Wildman, Old Orchard, Mo.

MONTANA.—P. M. Silloway, Lewistown, Mont.; M. J. Elrod, Missoula, Mont.

NEW ENGLAND.—William Brewster, 145 Brattle street, Cambridge, Mass.

NEBRASKA.—Prof. Edwin H. Burlour, University of Nebraska, Lincoln, Nebraska.

NEW MEXICO.—Dr. A. K. Fisher, Department of Agriculture, Washington, D. C.

NEW YORK.—Frank M. Chapman, American Museum of Natural History, New York City.

OHIO AND KENTUCKY.—Prof. Lynds Jones, Oberlin College, Oberlin, O.

PACIFIC COAST.—Chester Barlow, Santa Clara, Cal.

PENNSYLVANIA AND NEW JERSEY.—Witmer Stone, Academy of Natural Sciences, Philadelphia, Pa.

TENNESSEE.—Mina Baker Mitchell, Chattanooga, Tenn.

TEXAS.—H. P. Attwater, Houston, Texas.
VIRGINIA AND WEST VIRGINIA.—Dr. Wm. C. Rives, 1723 I street, Washington, D. C.
WISCONSIN.—H. Nehrling, Milwaukee, Wis.
EASTERN CANADA.—E. D. Wintle, 17 Saint John street, Montreal, Canada.

The student who has a handbook can not only get from it the name of his specimen, but can learn of its geographical range and its habits of migration, and thus know at what season to look for it. He can get hints of its nesting, food and other habits, which tell him enough to give him an intelligent foundation for further observation regarding the species. If the student will continue the work of identifying and observing birds during a vacation, or as opportunity offers, he will soon notice with joy the increasing number of friends which greet him each time he goes afield.

An occupation most stimulating to the study is to make a list of all the birds seen and positively identified in a neighborhood. The bird population is constantly changing, and it varies with the seasons as the great waves of the annual migrations pulse to and fro. By keeping a sharp lookout one ought to be able to determine one hundred or more varieties of birds in an ordinary neighborhood in a year's time. A magazine of popular ornithology, *Bird Lore*, published by the Macmillan Company at Harrisburg, Pa., for $1.00 a year, is a valuable periodical for all bird lovers.

SUGGESTIONS TO TEACHERS

Although it is recognized as essential that a teacher should have a pretty fair understanding of a subject before attempting to teach it, no such rule should hinder the beginner in bird study from endeavoring to interest others in the subject. It is a deference to this rule that keeps many teachers from branching out in nature work of this character.

The teacher need not assume to know much about the birds, but he can work and observe with his pupils. Children always become fascinated with bird study if their efforts are appreciated.

At the time of the opening exercises in the morning, or for a short period during the day, permit the students to make reports of birds they have seen since that time the day before. The teacher should keep a list of these on the blackboard. The pupils should be encouraged to make a list of the foods of birds.

During the spring and fall it is an excellent plan to record on the board the name of each new bird as it appears, together with the date of its appearance and the name of the pupil who first sees it.

It is sometimes well to have the pupils make lists of the birds seen within the school grounds, or the village, or a particular field. If the school be in a large city where few birds are seen, specimens of mounted birds or bird skins may be shown, and trips to the museums or zoological gardens may take the place of the tramps which the village or country teacher can have. Beautiful colored pictures of birds, which are excellent for schoolroom work, can be procured at very small cost. The Perry Pictures Co., Malden, Mass., and A. W. Mumford, Chicago, Ill., have a large list of these.

In many graded schools systematic work in bird study is mapped out for several years throughout the grades, and excellent results are being realized.