BIRDS AND NATURE

A. W. MUMFORD
CHICAGO

BIRDS AND NATURE

IN NATURAL COLORS

A NEW EDITION

PAGE PLATES OF FORTY-EIGHT COMMON BIRDS BY
COLOR PHOTOGRAPHY

A GUIDE IN THE STUDY OF BIRDS AND THEIR HABITS

VOLUME I

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

CHICAGO
A. W. MUMFORD, Publisher
536 S. CLARK ST.

PREFACE

The first of the 82 parts of the original edition of BIRDS AND NATURE was published January, 1897, and at once took first place among the works on Nature Study.

Volume I reached a sale of more than fifty thousand copies.

In December, 1904, 16 volumes with 648 color plates had appeared and twenty-five thousand complete sets sold.

The text plates were destroyed and the work has been out of print for several years. So this is not a revised edition, but a new edition, by writers of authority on birds, their foods, habits, their economic value; also the little good and much harm the very few birds do.

The color plates are the best that can be made; they were awarded the Grand Prize at the Paris Exposition in 1900 and the Gold Medal at the World's Fair, St. Louis, 1904.

The 240 plates in BIRDS AND NATURE, together with 408 others of birds, animals, plants and flowers, insects, shells, minerals, fish, etc., cost over sixty thousand dollars ($60,000), and they are likely to remain for at least another 17 years the largest and best collection of color plates of Natural History in the world. The color plates are so natural as to enable one to identify birds at a glance. No effort of expense or pains has been spared to achieve the highest possible excellence in this work. It is the fruit of twenty years of labor.

While 648 plates were used in the first edition of 16 volumes, the publisher believes that five volumes with the best 240 plates of the 240 most common birds of the United States and Canada will meet with more favor, and it is not very likely that 240 such exquisite color plates will appear in a similar work for a good many years to come. Many features commend this edition; the type, print and paper are good, right size of page and the volumes of 192 pages of text and 48 pages of color plates to each volume make books that are easy to handle and a joy to possess.

Not since Audubon's *Birds of America,* published in 1830-39, eighty-three years ago, has there been published a work on Ornithology to at all compare with BIRDS AND NATURE, which has stood and remains a monument to the study of Birds and the debt we owe them.

Audubon's *Birds of America* have sold as high as $3,000. He used the gun and drawing material.

BIRDS AND NATURE used the color-photograph process—photographing each color—made plates of each color and printed each color separately so as to blend and make all colors true to life.

The color plates are not reproduced from paintings, but from the real birds in nature—hence the exact colors.

In addition to the 240 birds illustrated in colors, 160 others are described, making 400 of the best known and most important birds of the United States and Canada.

Chicago, May 26, 1913. A. W. MUMFORD.

LIST OF COLORED PLATES

7x9 inches

Two hundred and forty of the most common of these appear in Vols. I, II, III, IV and V of Birds and Nature.

67 Anhinga—Snake Bird.
64 Avocet.
130 Baldpate.
193 Bird of Paradise, King bird of
7 Bird of Paradise, Red.
649 Bird Group (15 kinds).
650 Group (14 kinds).
321 Bittern.
129 Least.
19 Blackbird, Red Winged.
411 Rusty.
299 Yellow-headed.
21 Bluebird.
111 Mountain.
25 Bobolink.
124 Bob-white.
594 Brant, Black.
362 Buffle-head.
47 Bunting, Indigo.
110 Lazuli.
98 Snow.
569 Bush-Tit.
284 Canary, Wild.
65 Canvas-back.
20 Cardinal.
644 Cassowary.
50 Catbird.
120 Chat, Yellow-breasted.
45 Chickadee.
499 Carolina.
530 Chuck-wills Widow.
127 Cockatoo, Rose.
6 Cock of the Rock.
140 Coot.
420 Cormorant, Brandt's.
602 Cormorant, Double-crested.
294 Cowbird.
224 Crane, Sandhill.
163 Creeper, Brown.
35 Crossbill.
377 White-winged.
26 Crow.
587 Cuckoo, Black-billed.
84 Yellow-billed.
401 Curassow, Crested.
538 Curlew, Eskimo.
506 Long-billed.
150 Dickcissel.
604 Dipper, American.
89 Dove, Mourning.
332 Ring-necked.
404 Dovekie.
386 Dowitcher, Short-billed.
137 Duck, Black.
371 Fulvous Tree.
402 Harlequin.
626 Lesser Scaup.
3 Mandarin.
324 Ring-billed.
316 Ruddy.
66 Wood.
61 Eagle, Bald.
618 Golden.
70 Egret, Snowy.
625 Finch, House.
131 Purple.
27 Flicker.
116 Flamingo.
617 Flycatcher, Ash-throated.
515 Green-crested.
434 Olive-sided.
44 Scissor-tailed.
603 Traill's.
109 Vermilion.
433 Yellow-billed.
360 Fowls, Domestic.
276 Rooster and Hen.
554 Gadwall.
578 Gallinule, Florida.
33 Purple.
139 Gnatcatcher, Blue-gray.
410 Godwit, Marbled.
215 Golden-eye.
92 Goldfinch.
523 Arkansas.
537 European.
102 Goose, White-front.
162 Canada.
628 Goshawk.
118 Grackle, Bronzed.
387 Great-tailed.
363 Grebe, Eared.
37 Pied-billed.
570 Grosbeak, Black-headed.
78 Evening.
441 Pine.
31 Rose-breasted.
327 Western-blue.
115 Grouse, Black.
403 Canada.
151 Dusky.
201 Prairie-sharp-tailed.
59 Ruffed.
252 Gull, Bonaparte's.
185 Herring.
54 Ring-billed.
385 Hawk, Rough-legged.
142 Sparrow.
468 Broad-winged.
548 Ferruginous-Rough-leg.
43 Marsh.
188 Red-shouldered.
291 Red-tailed.
460 Sharp-shinned.
564 Western Red-tail.
53 Heron, Black-crowned Night.
159 Great Blue.
489 Green.
556 Little Blue.
212 Humming Birds.
113 Hummingbird, Allen's.
425 Anna's.
481 Black-shinned.
467 Broad-tailed.
450 Rivoli.
85 Ruby-throated.
426 Rufous.
166 Ibis, White-faced Glossy.
322 Scarlet.
228 White.
40 Jay, Arizona.
11 Blue.
32 Canada.
370 Long-crested.
315 Stellar's.
545 Junco, Pink-sided.
99 Slate-colored.
305 Killdeer.
100 Kingbird.
167 Arkansas.
17 Kingfisher, Belted.
108 European.
457 Kinglet, Golden-crowned.
88 Ruby-crowned.
507 Kite, Everglade.
497 Swallow-tailed.
627 Kittiwake.
379 Knot, Robin Snipe.
94 Lark, Horned.
531 Leucosticte, Gray-crowned.
619 Longspur, Lapland.
34 Smith's.
180 Loon.
18 Lory, Blue-mountain.
293 Lyre Bird.
329 Magpie.
63 Mallard.
331 Martin, Purple.
29 Meadowlark.
236 Merganser, Hooded.
74 Red-breasted.
52 Mockingbird.
14 Mot Mot, Mexican.
161 Murre, Brünnich's.
396 Murrelet, Marbled.
48 Nighthawk.
148 Nightingale
1 Nonpareil.
580 Nutcracker, Clarke's.
459 Nuthatch, Brown-headed.
330 Red-breasted.
90 White-breasted.
165 Old-squaw.
409 Oriole, Audubon's.
56 Baltimore.
417 Bullock's.
10 Golden.
529 Hooded.
42 Orchard.
71 Osprey.
145 Oven-bird.
242 Owl, Barn.
482 Burrowing.
514 Great Gray.
30 Great Horned.
380 Hawk.
133 Saw-whet.
41 Screech.
126 Short-eared.
57 Snowy.
369 Western Horned.
5 Parakeet, Australian.
285 Paroquet, Carolina.
394 Parrot, Gray.
157 Double Yellow-headed.
15 King.
393 Owl.
80 Partridge, Gambel's.
323 Massena.
128 Mountain.
144 Scaled.
313 Peacock.
395 Pelican, White.
138 Petrel, Wilson's.
97 Pewee, Wood.
475 Phalarope, Northern.
77 Wilson's.
4 Pheasant, Golden.
572 Impeyan.
24 Japanese.
119 Ring-necked.
143 Silver.
87 Phoebe.
121 Pigeon, Crowned.
344 Homing.
125 Passenger.
156 Pintail.
204 Plover, Golden.
104 Piping.
524 Black-bellied.
62 Ringed.
135 Snowy.
147 Upland.
172 Prairie Chicken.
136 Lesser.
196 Puffin, Tufted.

586 Ptarmigan, White-tailed.
314 Willow.
307 Rail, Clapper.
458 King.
297 Virginia.
636 Yellow.
336 Raven.
199 Redhead.
547 Redpoll.
357 Redstart.
153 Rhea, So. American.
553 Redbreast.
16 Robin.
610 Road-runner.
12 Roller, Indian.
418 Sanderling.
183 Sandpiper, Least.
192 Pectoral.
484 Red-backed.
562 Spotted.
372 Sapsucker, Red-breasted.
95 Yellow-bellied.
412 Scoter, Surf.
69 White-winged.
546 Shoveller.
419 Shrike, Northern.
55 Loggerhead.
601 Siskin, Pine.
76 Skylark.
169 Snipe, Wilson's.
72 Sora.
452 Sparrow, Chipping.
112 English.
442 Field.
123 Fox.
641 Golden-crowned.
508 Grasshopper.
555 Harris.
585 Lark.
474 Leconte's.
539 Savannah.
83 Song.
577 Swamp.
435 Tree.
349 Vesper.
532 White-crowned.
427 White-throated.
149 Spoonbill, Roseate.
522 Starling.
155 Stilt, Black-necked.
513 Sunbird, Philippine.
22 Swallow, Barn.
609 Tree.
500 Northern Violet-green.
270 Swans and Water Lilies.
134 Swan, Black.
93 Swift, Chimney.
364 Tanager, Louisiana.
9 Red-rumped.
58 Scarlet.
101 Summer.
306 Teal, Cinnamon.
298 Blue-winged.
114 Green-winged.
28 Tern, Black.
207 Caspian.
177 Common.
620 Forster's.
23 Thrasher, Brown.
466 California.
498 Thrush, Gray-cheeked.
579 European Song.
82 Hermit.
571 Olive-backed.
490 Varied.
49 Wood.
588 Titmouse, Crested (Europe).
253 Tufted.
8 Toucan, Yellow-throated.
283 Towhee.
563 Arctic.
635 California.
595 White.
2 Trogan, Resplendent.
107 Tropic Bird, Yellow-billed.
105 Turkey, Wild.
103 Turnstone.
117 Verdin.
337 Veery.
465 Vireo, Blue-headed.
122 Red-eyed.
96 Warbling.
449 White-eyed.
51 Yellow-throated.
634 Vulture, Black.
214 California.
79 Turkey.
483 Warbler, Audubon's.
154 Bay-breasted.
91 Blackburnian.
444 Black-poll.
60 Black and White.
264 Black-throated Blue.
436 Black-throated Green.
260 Blue-winged Yellow.
633 Canadian.
231 Cape May.
106 Cerulean.
263 Chestnut-sided.
261 Golden-winged.
73 Kentucky.
388 Hooded.
158 Magnolia.
262 Mourning.
259 Myrtle.
245 Nashville.
611 Orange-crowned.
505 Palm.
428 Parula.
492 Prairie.
46 Prothonotary.
643 Swainson's.
593 Tennessee.
378 Townsend's.
451 Worm-eating.
81 Yellow.
254 Water Thrush, Grinnell's.
516 Louisiana.
38 Waxwing, Bohemian.
249 Cedar.
612 Wheatear.
222 Whip-poor-will.
361 Willet, Western.
68 Woodcock.
146 Woodpecker, Three-toed.
36 California.
164 Downy.
596 Green.
476 Hairy.
141 Ivory-billed.
540 Nuttall's.
521 Pileated.
132 Red-bellied.
13 Red-headed.
561 Wren, Bewick's.
443 Carolina.
86 House.
39 Long-billed Marsh.
491 Short-billed Marsh.
473 Winter.
642 Yellow-legs.
75 Greater.
292 Yellow-throat, Maryland.
258 Western.

Price, 2 cents each; $1.80 per 100; any 240 for $4.00; or the 379 for $5.00. Order by number if all are not wanted.

A. W. MUMFORD, Publisher,
536 S. Clark St., Chicago, Ill.

American Goldfinch (*Astragalinus tristis*)

By I. N. Mitchell

Length about five inches; sexes unlike; nest a thick walled, compact, well made cup, outside of fine grasses, fibres of bark, wool and moss, inside thickly lined with thistle-down, wool and cotton; eggs three to six.

Range: United States; breeds from middle regions north, and winters mainly within the United States.

This is the yellow bird that so many people call the wild canary. The resemblance between our wild finch and the cultivated immigrant from the Canary Islands is so striking, sometimes, both in color and voice, that the name seems almost justified. Let us be patriotic, however, and claim our own bird as the *American goldfinch*. How well the name suggests his clear, beautiful, yellow body color. This, with his black crown, wings and tail make the male bird an easy one to know. The female, though dressed in the same general colors, is much harder to identify. The yellow is darkened to a brownish olive, and the black of the wings and tail is a dusky, brownish black. The crown patch is wanting. She may be known by the company she keeps better, perhaps, than by the colors of her coat. In the fall the male changes color and then looks like the female.

The goldfinch is one of the birds that is easy to recognize by the manner of flight. He adopted the coaster-brake style of locomotion ages before the days of the bicycle. He pumps vigorously for a few strokes and sends himself forward on an upward, wave-like curve, then takes it easy for a bit and falls through another graceful curve. He seems to enjoy the coasting slide and sings "Now, here we go" as he falls. The wavy line of flight and the song "per-chic-o-ree" as so many know it, are in a peculiar adulatory manner.

The voice of the goldfinch is peculiarly soft and clear. His call is a short "sweet" and "dearie" that arouses in his human hearer feelings of tenderness and affection caused by no other wild bird and rivaled only by those suggested by the sweetest notes of the canary. In the mating season the song is prolonged and canary like. To hear a flock of them singing in chorus is an event of a season.

Being a seed eater, the goldfinch finds it possible to remain in the northern states throughout the winter. They are so much less noticeable in their winter plumage that many people do not recognize them. They rove through the fields in large flocks feeding on the seeds of the weeds that stick above the snow.

They are most abundant during the last week of April and the first week of May. This may be because many of them have returned from farther south,

GOLDFINCH.
(Spinus tristis).
⅞ Life-size.

or they may only seem commoner because the male has again put on his summer coat and because they go in flocks. The goldfinches are a happy, jolly, care-free lot of rovers. They seem to be strongly attached to each other and prolong the life in the flock well into the summer; then they go off in pairs to begin their house making and house keeping duties in the crotch of some bush or tree.

From the viewpoint of the farmer and gardener the goldfinch is a most desirable neighbor. He takes no liberties with anything that man in his selfishness has tried to appropriate to his own exclusive use. He is not only negatively good, he is very positively good. He is one of the unpaid but very efficient assistants of the weed commissioner, and never hesitates to invade a thistle patch for fear of hurting the feelings of the owner of the land, nor for fear of injuring his own chances of re-election. He helps with the dandelions and plantain, with the ragweed and dock. He is fond of sunflower seeds but gets hardly a taste of them if English sparrows are about.

These beautiful birds are more than weed-seed destroyers. Like their relatives, the finches and sparrows, they feed their young on insects and thus help to hold in check the beetles and grasshoppers and the rest of that pestilential army.

Brown Thrasher

Habits and economic status: The brown thrasher is more retiring than either the mocking bird or catbird, but like them is a splendid singer. Not infrequently, indeed, its song is taken for that of its more famed cousin, the mocking bird. It is partial to thickets and gets much of its food from the ground. Its search for this is usually accompanied by much scratching and scattering of leaves; whence its common name. Its call note is a sharp sound like the smacking of lips, which is useful in identifying this long-tailed, thicket-haunting bird, which does not much relish close scrutiny. The brown thrasher is not so fond of fruit as the catbird and mocker, but devours a much larger percentage of animal food. Beetles form one-half of the animal food, grasshoppers and crickets one-fifth, caterpillars, including cut-worms, somewhat less than one-fifth, and bugs, spiders, and millipeds comprise most of the remainder. The brown thrasher feeds on such coleopterous pests as wire-worms, May beetles, rice weevils, rose beetles, and figeaters. By its destruction of these and other insects, which constitute more than 60 per cent of its food, the thrasher much more than compensates for that portion (about one-tenth) of its diet derived from cultivated crops.

Brown Thrasher (*Toxostoma rufum*)

By W. Leon Dawson

Length—About 11 inches.

Range—Eastern United States west to the Rocky Mountains; north to Maine, Ontario and Manitoba. Breeds from Gulf States to southern Canada and west to Colorado, Wyoming and Montana; winters in the southern half of eastern United States.

The last of this splendid trio of mocking singers is even more secretive than all the others in its ordinary habits, and bolder yet in song. Early in the spring the Thrashers steal northward up the river valleys, skulking along fence-rows or hiding in brush-heaps and tangles, and rarely discovering themselves to human eyes until the breeding ground is reached. Here, too, if the weather is unpropitious, they will mope and lurk silently; but as soon as the south wind repeats the promise of spring the Thrasher mounts a tree-top and clears his throat for action.

Choosing usually a spot a little way removed from the road, the singer sends his voice careering over field and meadow, lane and wood-lot, till all may hear him for a hundred rods around. What a magnificent aria he sings! Precise, no doubt, and conscious, but it is full-voiced and powerful. Now and then he lapses into mimicry, but for the most part his notes are his own—piquant, incisive, peremptory, stirring. There is in them the gladness of the open air, the jubilant boasting of a soul untamed. Each phrase is repeated twice.

> "That's the wise thrush; he sings each song twice over,
> Lest you think he never could recapture
> The first fine careless rapture."

He opens his bill wide, his body vibrates with emotion, and each note is graced by a compensating movement of the drooping tail.

Altho the Brown Thrasher does not make such hopeless confusion of jest and earnest as does the Catbird, there is still something of the buffoon about him, and his ways in the bush are not altogether above criticism. Possibly with the best motives, but still in a very annoying fashion, the bird sneaks about through the brush and insists upon knowing your business. From time to time it utters a sharp, repulsive (tsook), and occasionally a suggestive (you-uh), which makes one feel conspicuous and uncomfortable. The bird's eye, too, with its orange iris, while it must be admitted to harmonize perfectly with the warm russet of the plumage, has a sinister cast which might prejudice the unthinking.

In defense of its home the Thrasher is almost fearless, often placing itself within reach of the observer's hand, and calling down upon him all the

BROWN THRASHER.
(Harporhynchus rufus).

while the most dreadful woes. The female is a close sitter, and portraits (in nido) are not difficult to obtain.

Nesting sites are various, but the bird shows a decided preference for those which are naturally defended by thorns Nearly every full sized Crategus (thorn apple) has at one time harbored a nest. Hedges of osage-orange are well patronized almost exclusively so in the prairie states further west—and the honey-locust tree is not forgotten. Next after these come wild plum thickets, grape-vine tangles, brush heaps, fence corners, and last of all, the ground.

From "Birds of Ohio" by Permission.

Birds in Winter Fields

By Edward B. Clark

A crow was calling from the Skokie,* while from the oak at the doorstep a bluejay, in a voice more grating than usual, answered the salutation with the epithet "thief," twice repeated. It may seem strange that the summons of two harsh bird-voices should be potent enough to draw one to the outdoor world from the front of a pile of genially crackling birch-logs, when the thermometer is dangerously near zero. There are some people, however, to whom a jay and his jargon, and the call of a bird as common as a crow, are preferred to the warmth of a hearth, though the fire be of birch. The same persons who tell you that since the English sparrow was imported every other winged thing except the mosquito and the house-fly has disappeared, will tell you also, even if they admit the presence of a few songsters in summer, that there are no more birds in winter than there are in last year's nests. There are winter birds, however, and interesting winter birds at that. Those who will take the trouble and who will learn how to look, will find them lurking in the shrubbery just beyond the snow which banks the doorstep, or it may be, calling with voices as blithe as of the summer from the bare apple-boughs of the orchard.

When the crow called me that cold January morning, I struck out for a tramp through the Skokie swamp, and all the country that lay between it and the hill on the east. It was a bitter morning, and even the owl, hidden in the hole in the oak, "for all his feathers was a-cold." I halted at the foot of the dooryard steps, and cast an anxious look upward to see if the jay which I had heard from the fireside had deserted. I am superstitious enough to think that it augurs well for the success of a bird-hunting trip to see some feathered character at the start. This bit of superstition is, I believe, common to all bird-students. The jay was still there. It is perhaps the commonest bird of this locality, both in winter and summer. You can

*Few miles north of Chicago.

always count upon the jay's doing something new. This doorstep jay did something decidedly new—he dropped from his beak to the ground at my feet a round, flat, smooth stone of the diameter of an inch. It was one of the kind of which thousands may be found along the lake shore. I should judge, from a long and somewhat intimate acquaintance with jays, that they have not the regular habit of making stone-boats of their beaks. I picked the stone up, and asked the bird what he had intended to do with it. He cocked his head on one side, looked down on me, and screamed "Thief" at the top of his lungs. I agree with Bradford Torrey that this bird says "thief" much more plainly than he says "jay." Thus he characterizes himself as well as if he spoke English more fluently. The jay is essentially a thief, and seems to take delight in proclaiming the fact to the world.

On the outskirts of Highland Park, Ill., there is a patch of dense undergrowth. Before the heavier timber was cut down, the place was known as Hamilton's Woods. Some years ago these acres of underbrush were divided into town lots, and a new city was to spring up. One house and an ambitious cement sidewalk with plank extensions are all that remain as monuments to the purpose and hope of the projectors. This town-site is on the very summit of the ridge which slopes down westward to the Skokie. Far off beyond the stretches of coarse swamp-grass one sees, blue in the distance, the woods that skirt the river. From this spot it is that sunsets may be seen having in them something of the higher glories of color that are associated with the close of day in the hill countries far removed from the level plains of Illinois. The undergrowth is not uninhabited. There, summer and winter, live the rabbits, a squirrel or two, the red-headed and downy woodpeckers, the jay and the chickadee, and the not infrequent quail. In summer this spot is the haunt of the scarlet tanager, the catbird, the brown thrasher, and the oriole.

When I reached Hamilton's Woods on that winter's day, I stopped to examine some bits of bird architecture; for though man failed to build here, there are enough bird homes in the patch to give evidence of its excellence as a dwelling place. In a hazel-bush, not more than twenty feet from the highroad, I found the deserted nest of a catbird. The July previous I had watched the outgoing of the fledgeling family from this little home. I had reached a point within five feet of the nest when I was struck by the fact that it was moving. There was a rustling of the dry oak leaves which formed its base, and the twigs above were swaying in a way which precluded the possibility of the movement being the work of the wind. Then through my mind flashed the thought of Dr. Abbott's tales of winter catbirds in New Jersey, and of the story I had heard of one of the birds which for a whole winter did not go nearer the equator than South Chicago. Was it possible that one of these gray, scolding, querulous creatures was revisiting its summer home, and marking the exception which proved the Spanish

proverb, "There are no birds in last year's nest?" I made a cautious step or two, and the mystery was explained. A piercing little black eye, with a world of fright in its narrow compass, was peering at me from above the edge of the nest. Then there was more rustling, and I caught a glimpse of something as it flashed down the stem of the hazel-bush. Then there was disappearance and quiet. It was a mouse, of course. He had taken possession of the catbird's summer home for a winter residence. There was too strong a temptation to resist to pry into the housekeeping of Master Mouse. He had "bulged up" the inner bark lining of the structure a little, and beneath this he placed his store of provender, which consisted of corn and hazelnuts. There was no corn-field within fifty rods, and this diminutive four-footed "beastie" must have made many a weary journey for his corn supply. The hazelnuts were close at hand and in abundance.

It is hard work to get away from a jay. Even though he be at a distance, his voice is a constant reminder that he is on earth. I have said that the jay is essentially a thief—now for proof positive. A pair of these steel-blue coated creatures had been watching my operations on the catbird's nest with apparent interest, though I had given them little attention, because of the greater matter in hand. I had walked away from the thorn bush to a distance of about fifty yards, when a jay call that had something of jubilation in it caused me to turn. The two birds were engaged in rifling the mouse's larder. I was conscience-stricken at being the cause of the loss of food, so I drove the birds away. I found that they had secured already a large share of the supply, and I have little doubt that they returned later to complete the robbery.

A little log hut, built after the fashion of fifty years ago, stands at a corner of Hamilton's Woods, upon what was intended for a town lot. The path leads away from the highway at this point and strikes down straight toward the Skokie. A pair of downy woodpeckers flew over the path, and began playing hide-and-seek around the bole of an oak. The downy woodpecker is everlastingly cheerful. Whenever there is a break in the interest of a winter morning's walk, he is certain to appear and do what he can to enliven the occasion. This morning he did more. One of the pair went to the top of a tree, and while my eye was following his course along the branch there came within the range of vision ten great birds far up in the sky and flying westward. They were wild geese. There was the gander leader, and trailing along forming the V-shaped wedge were the followers. I blessed the downy for calling my attention to the geese. It was the middle of January; the thermometer was close to zero, and yet here was a flock of geese in northern Illinois. The birds were heading for the swamp. What two months before had been a stream in the center of the marsh was now a long, glistening ice ribbon, with here and there, as it were, a white knot tied, where the rushes parted a little to the right and left. The ten geese

settled slowly toward the swamp, and then rose again at the direction of their leader, who doubtless said, "No rest nor forage here, but I know of a corn-field beyond."

I put these ten birds down as geese indeed, for forgetting the warmth and food plenty in the South, and for trusting for a living to the poor pickings of a frozen, storm-swept country. In a few moments I found there were other geese. A second V-shaped flock of thirteen individuals passed over in the wake of the leading ten. Apparently there was some trouble in the second group, for the birds kept changing sides; the two immediately behind the leader moved one in the place of the other, and then the maneuver was repeated at the middle of the gathering, and then at the extreme rear. This continued for some time, and there came into my mind the irresistible conclusion that the old gray gander leader was telling his followers that five birds on one side and seven on the other of the V was an uncouth flying order, and that in trying to get one bird to change over, his orders were so misunderstood that a general mix-up resulted. Finally, however, before the flock was lost to sight, the old fellow succeeded in getting things straightened out.

A man in a brickyard near the swamp said that the geese were coming from the lake because a storm was brewing. There was no storm for a week, however. The same man said that he had seen a thousand geese "a few days before." Pinned down, however, he admitted that the "few days before" was in November.

The bluffs against which the waves of Lake Michigan beat just north of Chicago are cut by deep ravines. In the summer these ravines are thickly tenanted by birds. All through June they ring with the notes of the rose-breasted grosbeak, the wood thrush and the brown thrasher. I determined one winter morning, in the same month as that of my Skokie trip, though in another year, to find out what one of these great gullies held in winter that was of interest to a bird lover. The weather conditions of the night before and of the early morning were unusual for midwinter. At midnight the air was warm and heavy; at five o'clock in the morning there was a thunderstorm raging which would not have been out of place in late April. The thermometer marked seventy degrees, and the lightning played through a heavy downfall of rain. At seven o'clock there were signs of clearing. The sun peeped out through a break in a cloud bank that hung low over Michigan. An hour later as I stood on the lake shore ready to begin the threading of the ravine, there was no longer any rain, and the air was beginning to take on a crispness.

The first glimpse of bird life came just before I turned inland. The advance guard of what became a great army of gulls crossed the horizon. They were herring gulls, and in color were in keeping with the gray day. A flock of ducks flew rapidly along below the gulls and parallel to the shore line.

They were moving like thought, and soon left the gulls far behind. I recognized them as old squaws, wanderers from the far off Arctic. In the middle of winter the old squaw is not an uncommon bird at the southern end of Lake Michigan. When the lake is well filled with ice these northern ducks search for the stretches of open water, and there they seek rest and food. A gunner who took station at the end of the government pier in Chicago one winter's day killed a hundred old squaws in a few hours' time. When the killing was complete, he found out that the birds were unfit for food, and the bodies of the beautiful creatures were thrown away. I left the lake and went into the ravine. On the bank of the little brook at the bottom the air was warm and still. The stream was ice-bound only in places. The locality was like one of the constant succession of scenes that are found in a ramble in New England. Sadly enough, however, June sees this ravine brook dried up, and the July sun withers the flowers at its edge and the foliage on its banks. The ravine's beauty largely will pass, while in New England the mountain-fed streams will keep the summer blossoms bright and the leaves green.

I started a junco from his feeding place on the brook's bank. He was all alone. I think that was the only time in my field experience that I have found a junco separated from his fellows. While the books put this little snowbird down as a common winter resident in this latitude, I have found it in the heart of winter only on three occasions, and then in limited numbers. A few yards beyond the junco's foraging place I found the empty tenement of a red-eyed vireo. The vireo had used a piece of newspaper as a part of his building material. The print was still clear, and I found the date line of a dispatch at the heading of a short article. The date was July 3, of the year before. This was proof beyond question that the vireo had begun housekeeping rather later in the season than is usual with his tribe. Judging from other empty nests that I found close at hand the vireo had pleasant neighbors, the redstarts and the yellow warblers. The birds must have found this ravine an ideal summer resort, plenty of shade, good water, lake breezes, and a larder well supplied with all the insect delicacies of the season.

The pathway of the stream was lined in places with snow which the thaw had spared. I found that I was not the first traveler of the morning. A rabbit had preceded me, and apparently he had gone a long way from home, for the marks of his footsteps led on until the ravine was at an end. A jay resented my intrusion into the ravine. The jay finds his perfect setting in a winter day. His coloring makes the bird seem like a bit broken from the blue sky and from the edge of a cold gray cloud. When I finally reached the plain above the ravine, I found that a blizzard was raging. In the sheltered depths I had not known of the change in the weather. Within an hour the worst storm of the year was sweeping over the lake. It was on that day, which had opened with a spring-like mildness, that the steamship Chicora, plying Lake Michigan, went down to destruction. The air was filled with particles of

snow that cut like sleet. I reached a field finally where the storm had full sweep, and was compelled to brace myself to resist its force. I edged into it as best I could, and before I had made many yards I found that even in the tempest I had bird companions. A flock of snow buntings were whirling over a depression in the prairie. The wind tossed them about almost at will, but in some way they managed to hold their place over the same low spot in the field. They went to the ground finally, but as I passed them they rose in a body and went hurtling down the wind. What I saw was but little more than some streaks in the snow-laden air. A blizzard is of but little more moment to a snow bunting than a zephyr. How the wind did hurl them! They were not more than four feet above the ground, and were being borne straight at a close board fence. I thought they were about to be dashed headlong against it, but the buntings had ridden on the breast of a storm before. When within a few feet of the fence they rose and went scuttling over the top, showing white against the treetops beyond.

Slate-Colored Junco (*Junco hyemalis*)

By W. Leon Dawson

Length: Six and one-fourth inches. Range: North America, chiefly east of the Rockies, breeding in the hilly portions of the Northern States. South in winter to the Gulf States.

Common in spring and fall, a few remain through the winter; sexes similar, female duller; nest usually on the ground in a clump of low bushes, of grass, and moss lined with fine grass and hair; eggs four or five; song a modest trill.

A summer in Laurentia is certainly good for the health, for when Junco returns in the fall he is chockfull of animal spirits and good cheer. He is a very energetic body at any time of year, but his high spirits are especially grateful to the beholder when the numbing cold of winter has silenced all feathered kind but the invincible Tree Sparrows and Snow-birds. The plumage of the Junco exactly matches his winter surroundings—"Leaden skies above; snow below," Mr. Parkhurst says—and he proceeds to make himself thoroughly at home. Not content to mope about within the limits of a single brush-patch, like Tree Sparrows, large companies of Snow-birds rove restlessly through tree-tops and weedy dingles as well, and cover considerable areas in a day.

On such occasions, and commonly, they employ a peculiar twitter of mingled greeting and alarm,—a double note which escapes them whenever any movement of wing is made or contemplated. I have called this the

SLATE COLORED JUNCO.
(Junco hyemalis)
Life size.

"banner" note, partly because it is uttered when the bird, in rising from the ground or fluttering from twig to twig, displays the black and white banner of its tail and partly because it sounds like the double clank-clank of a railroad switch when the heavy trucks pass over it. The connection between a banner and a railroad switch may not be perfectly obvious at first, but anyone who is not color-blind is hereby respectfully challenged to forget if possible the lurid colors which decorate the average assemblage of militant switch-posts.

Junco, while a reckless fellow to appearance, is not indifferent to the comfort of well-appointed lodgings. His nights are spent in the thickest cover of cedar hedges, under logs or sheltered banks, along streams, or else buried in the recesses of corn-shocks. One crisp November evening a year or two ago, with my ornithological chum, Mr. Lynds Jones, I watched a company of Juncoes to bed. The birds would steal along from shock to shock with twitter of inquiry until they found an empty bed or one to their taste, and then would settle down into the top, not without considerable rustling of dry leaves. When the company was quiet, we started out, boy-like to undo the work. We saluted the shocks in turn with distantly flung clods which shivered to powder as they struck the stalks and made a noise like the Day of Judgment. Out dashed Juncoes by twos and threes from every shock thus rudely assaulted, and many were the pertinent remarks made in most emphatic Junkese when the mischief-makers were discovered. Oh, well, they really wer'n't scared quite out of their wits, and they had plenty of time to get back into bed again after we were gone. Besides, variety is the spice of life—even of a Snow-bird's. But the boys! Say, Jones, how old are you, anyway?

When the first warm days of March bring up the Bluebirds and the Robins, the Juncoes get the spring fever. But they do not rush off to fill premature graves in the still snowy north. The company musters instead in the tree-tops on the quiet side of the woods, and indulges in a grand eisteddfod. I am sure that the birds are a little Welch and that this term is strictly correct. All sing at once a sweet little tinkling trill, not very pretentious, but tender and winsome. Interspersed with this is a variety of sipping and suckling notes whose uses are hard to discern. Now and then also a kissing note, of repulsion instead of attraction, is heard, such as is employed during the breeding season to frighten enemies. During the progress of the concert some dashing young fellow, unable fully to express his emotion in song, runs amuck and goes charging about through the woodsy mazes in a fine frenzy, without, however, quite spilling his brains. Others catch the infection, and I have seen a scare at once in a mad whirl of this harmless excitement.

Juncoes linger surprisingly late sometimes, well on into April or even May. Perhaps this is because they are so near the southern limit of their

breeding ranges that they cannot be sure they care to move. The birds are said to breed still in the wilder portions in the northeastern part of the states, but of this I have no certain knowledge.

From "Birds of Ohio" by Permission.

Scarlet Tanager (*Piranga erythromelas*)

By Herman C. DeGroat

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

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

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

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

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

The olive-green dress of the female and the young birds is in striking contrast to the bright scarlet of the male. This wise provision of nature renders the mother quite unnoticeable on her nest and tends to preserve the species from extermination.

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

SCARLET TANAGER.
Life-size.

BACK TO GOD AND HIS WORKS

Turn backward O tide
Of young people, the pride
Of America's hearths and her homes;
Back to Nature's sweet fountain
Where health runs as free
As the springs of the mountain
Run free to the sea.
Turn backward O Splendor,
To GARDEN AND TREE.

Turn back from the throng
That would tempt thee to wrong;
Turn back to the hills and the dales
Where thy fair locks are tossed
By the sweet summer breeze,
And thy burdens are lost
Midst the hum of the bees;
Turn backward O Splendor,
To GARDEN and TREES.

Turn back from the noise
To NATURES sweet joys,
To a life with GOD and His works;
Where the munching of herd
By the soft flowing stream,
And the song of the bird
Like some fairy dream
Forms loves jubilee.
Turn backward O Splendor,
To GARDEN AND TREE.

Turn backward, yes back
From the dust and the smoke;
From the struggle and strife
And the gall of the yoke;
Back to the blossoms,
The fruit, and the vine,
Back to the glory
Of Maple and Pine;
A companion once more
Of forest and sea.
Turn backward O Splendor,
To GARDEN and TREE.
Backward, yes backward
To EARTH'S JUBILEE.

The Barn-Swallow (*Hirundo erythrogaster*)

By Alexander Wilson

Length, seven inches, deeply forked tail.

Range: Breeds throughout United States (except the South Atlantic States and Gulf States) and most of Canada; winters in South America.

In the United States there are but few persons who are not acquainted with this gay, innocent and active little bird. Indeed the whole tribe are so distinguished from the rest of small birds by their sweeping rapidity of flight, their peculiar aerial evolutions of wing over our fields and rivers and through our very streets from morning to night, that the light of Heaven itself, the sky, the trees, or any other common objects of nature are not better known than the Swallows. We welcome their first appearance with delight, as the faithful harbingers and companions of flowery spring and ruddy summer; and when after a long, frost-bound and boisterous winter, we hear it announced that "the swallows are come," what a train of ideas are associated with the simple tidings!

The wonderful activity displayed by these birds forms a striking contrast to the slow habits of most other animals. It may fairly be questioned whether among the whole feathered tribes which Heaven has formed to adorn this part of creation, there be any that, in the same space of time, pass over an equal extent of surface with the Swallow. Let a person take his stand on a fine summer evening by a new-mown field, meadow or river shore for a short time, and, among the numerous individuals of this tribe that flit before him, fix his eye on a particular one, and follow for a while all its circuitous labyrinths, its extensive sweeps, its sudden rapidly-reiterated zigzag excursions, little inferior to the lightning itself, and then attempt by the powers of mathematics to calculate the length of the various lines it describes. Alas! even his omnipotent fluxions would avail him little here, and he would soon abandon the task in despair.

Yet, that some definite conception may be formed of this extent, let us suppose that this little bird flies in his usual way at the rate of one mile in a minute, which, from the many experiments I have made, I believe to be within the truth, and that he is so engaged for ten hours in every day, and further that this active life is extended to ten years (many of our small birds being known to live much longer even in a state of domestication). The amount of all these, allowing three hundred and sixty-five days to a year, would give us two million, one hundred and ninety thousand miles, upward of eighty-seven times the circumference of the globe.

The Barn-swallow arrives in parts of Pennsylvania from the south on the last week in March or the first week in April, and passes on to the north

as far at least as the river St. Lawrence. On the east side of the great range of the Allegheny, they are dispersed very generally over the country, wherever there are habitations, even to the summit of high mountains, but on account of the greater coldness of such situations they are usually a week or two later in making their appearance there. On the 16th of May, being on a shooting expedition on the top of Pocono Mountain, Northampton, where the ice on that and on several successive mornings was more than a quarter of an inch thick, I observed with surprise a pair of these Swallows which had taken up their abode on a miserable cabin there. It was then about sunrise, the ground white with hoar frost, and the male was twittering on the roof by the side of his mate with great sprightliness. The man of the house told me that a single pair came regularly there every season and built their nest on a projecting beam under the eaves, about six or seven feet from the ground.

At the bottom of the mountain, in a large barn belonging to the tavern there, I counted upward of twenty nests, all seemingly occupied. In the woods they are never met with; as you approach a farm they soon catch the eye, cutting their gambols in the air. Scarcely a barn to which these birds can find access is without them, and as the public feeling is universally in their favor they are seldom or never disturbed. The proprietor of the barn just mentioned, a German, assured me that if a man permitted the Swallows to be shot, his cows would give bloody milk, and also that no barn where Swallows frequented would ever be struck by lightning, and I nodded assent. When the turrets of superstition "lean to the side of humanity" one can readily respect them.

Early in May they begin to build. From the size and structure of the nest it is nearly a week before it is completely finished. One of these nests, taken on the 21st of June from the rafter to which it was attached, is now lying before me. It is in the form of an inverted cone with a perpendicular section cut off on that side by which it adhered to the wood. At the top it has an extension of the edge, or offset, for the male or female to sit on occasionally; the upper diameter is about six inches by five, the height externally seven inches. This shell is formed of mud, mixed with fine hay as plasterers do their mortar with hair to make it adhere the better; the mud seems to have been placed in regular strata, or layers, from side to side; the hollow of this cone (the shell of which is about an inch in thickness) is filled with fine hay, well stuffed in; above that is laid a handful of very large downy goose feathers. The eggs are five, white, speckled and spotted all over with reddish-brown. Owing to the semi-transparency of the shell the eggs have a slight tinge of flesh color. The whole weighs about two pounds.

There are generally two broods in the season. The first makes its appearance about the second week in June, and the last brood leaves the nest about the 10th of August. Though it is not uncommon for twenty or even

BARN SWALLOW.
⅞ Life-size

thirty pairs to build in the same barn, yet everything seems to be conducted with great order and affection; all seems harmonious among them, as if the interest of each was that of all. Several nests are often within a few inches of each other, yet no appearance of discord or quarreling takes place in this peaceful and affectionate community.

When the young are fit to leave the nest the old ones entice them out by fluttering backward and forward, twittering and calling to them every time they pass, and the young exercise themselves for several days in short essays of this kind within doors before they first venture abroad. As soon as they leave the barn they are conducted by their parents to the trees, or bushes, by the pond, creek or river shore, or other suitable situation, where their proper food is most abundant, and where they can be fed with the greatest convenience to both parties. Now and then they take a short excursion themselves, and are also frequently fed while on wing by an almost instantaneous motion of both parties rising perpendicularly in air and meeting each other.

About the middle of August they seem to begin to prepare for their departure. They assemble on the roof in great numbers, dressing and arranging their plumage and making occasional essays, twittering with great cheerfulness. Their song is a kind of sprightly warble, sometimes continued for a considerable time. From this period to the 8th of September they are seen near the Schuylkill and Delaware every afternoon for two or three hours before sunset, passing along to the south in great numbers, feeding as they skim along. I have counted several hundreds pass within sight in less than a quarter of an hour, all directing their course toward the south. The reeds are now their roosting places, and about the middle of September there is scarcely an individual of them to be seen.

How far south they continue their route is uncertain; none of them remain in the United States. Mr. Bartram informs me that during his residence in Florida he often saw vast flocks of this and our other Swallows passing from the peninsula toward the south in September and October, and also on their return to the north about the middle of March. It is highly probable that, were the countries to the south of the Gulf of Mexico visited and explored by a competent naturalist, these regions would be found to be the winter rendezvous of the very birds now before us, and most of our other migratory tribes.

The Chickadee (*Penthestes atricapillus*)

By Thomas Nuttall

Length, about 5¼ inches.

Range: Resident in the United States (except the southern half east of the plains), Canada, and Alaska.

Habits and economic status: Because of its delightful notes, its confiding ways, and its fearlessness, the chickadee is one of our best-known birds. It responds to encouragement, and by hanging within its reach a constant supply of suet the chickadee can be made a regular visitor to the garden and orchard. Though insignificant in size, titmice are far from being so from the economic standpoint, owing to their numbers and activity. While one locality is being scrutinized for food by a larger bird, 10 are being searched by the smaller species. The chickadee's food is made up of insects and vegetable matter in the proportion of 7 of the former to 3 of the latter. Moths and caterpillars are favorites and form about one-third of the whole. Beetles, ants, wasps, bugs, flies, grasshoppers, and spiders make up the rest. The vegetable food is composed of seeds, largely those of pines, with a few of the poison ivy and some weeds. There are few more useful birds than the chickadees.

This familiar, hardy and restless little bird chiefly inhabits the northern and middle states, as well as Canada. In the latter country it is found even in winter around Hudson's Bay.

During autumn and winter families of these birds are seen chattering and roving through the woods, busily engaged in gleaning food. Along with the Creepers and Nuthatches they form a busy, active and noisy group, whose manners, habits and food bring them together in a common pursuit. Their diet varies with the season; for besides insects and their eggs, of which they are particularly fond, in September they leave the woods and assemble familiarly in our orchards and gardens. Sometimes they even enter cities in quest of food. Large seeds of many kinds, particularly those which are oily, are now sought after. Fat of various kinds is also greedily eaten, and the Chickadees regularly watch the retreat of the hog-killers in the country to glean up the fragments of meat which adhere to the places where the carcasses have been suspended. At times they feed upon the wax of the candleberry myrtle. They likewise pick up crumbs near the houses, and search the weather-boards, and even the window-sills for insect prey. They are particularly fond of spiders and the eggs of destructive moths, especially those of the canker worm, which they greedily devour in all stages of its existence.

In winter, when hunger is satisfied, they will descend to the snow and quench their thirst by swallowing small bits. In this way their various and frugal meal is always easily supplied; and hardy and warmly clad in light and

CHICKADEE.
About Life size

very downy feathers, they suffer little inconvenience from the inclemency of the seasons. Their roost is in the hollows of decayed trees, where they also breed, making a soft nest of moss, hair and feathers, and laying from six to twelve eggs, which are white, with specks of brown-red. They begin to lay about the middle or close of April, and though they commonly make use of natural or deserted holes of the woodpecker, yet they frequently excavate a cavity for themselves with much labor. The first brood takes wing about the 7th or 10th of June, and there is sometimes a second brood toward the end of July. The young, as soon as fledged, have all the external marks of the adult, the head is equally black, and they chatter and skip about with all the agility and self-possession of their parents, who appear nevertheless very solicitous for their safety.

From this time on the whole family continue to associate together through the autumn and winter. They seem to move in concert from tree to tree, keeping up a continued *'tshe-de-de-de-de* and *'tshe-de-de-de-dait,* preceded by a shrill whistle, all the while busily engaged picking around the buds and branches, hanging from their extremities and proceeding often in reversed posture, head downward, like so many tumblers, prying into every crevice of the bark and searching round the roots and in every possible retreat of their insect prey or its larvæ. If the object chance to fall, they industriously descend to the ground and glean it up with the utmost economy.

Almost the only note of this bird which may be called a song, is one which is frequently heard at intervals in the depth of the forest, or from the orchard trees. Although more frequently uttered in spring, it is now and then whistled on warm days even in winter; it may be heard, in fact, in every month of the year. It consists of two, or, less frequently, three clearly-whistled and rather melancholy notes, like the syllables *phee-bee,* not drawled like the song of the wood Pewee, and sweeter and more even than the cry of the Phœbe.

The Chickadee is found in summer in dry, shady and secluded woods, but when the weather becomes cold, and as early as October, roving families, pressed by necessity and failure of their ordinary insect fare, now begin to frequent orchards and garden, appearing extremely familiar, hungry, indigent, but industrious, prying with restless anxiety into every cranny of the bark or holes in decayed trees after dormant insects, spiders and larvæ. The Chickadee adds by its presence, indomitable action and chatter, an air of cheerfulness to the silent and dreary winters of the coldest parts of North America.

Bobolink (*Dolichonyx orizivorus*)

By Elizabeth and Joseph Grinnell

"The Happiest Bird of Our Spring."

Length, about 7 inches.

Range: Breeds from Ohio northeast to Nova Scotia, north to Manitoba, and northwest to British Columbia, winters in South America.

Habits and economic status: When American writers awoke to the beauty and attractiveness of our native birds, among the first to be enshrined in song and story was the bobolink. Few species show such striking contrasts in the color of the sexes, and few have songs more unique and whimsical. In its northern home the bird is loved for its beauty and its rich melody; in the South it earns deserved hatred by its destructiveness. Bobolinks reach the southeastern coast of the United States the last half of April just as rice is sprouting and at once begin to pull up and devour the sprouting kernels. Soon they move on to their northern breeding grounds, where they feed upon insects, weed seeds, and a little grain. When the young are well on the wing, they gather in flocks with the parent birds and gradually move southward, being then generally known as reed birds. They reach the rice fields of the Carolinas about August 20, when the rice is in the milk. Then until the birds depart for South America planters and birds fight for the crop, and in spite of constant watchfulness and innumerable devices for scaring the birds a loss of 10 per cent of the rice is the usual result.

Common summer resident, sexes, unlike; nest, made on the ground, of grasses; eggs, four to seven.

He was just a bird to start with, half blackbird and the other half sparrow, with some of the meadow-lark's ways of getting along. As to the naming of him, everybody settled that matter at random, until one day he grew tired of being called nicknames and named himself.

Think of having "skunk-blackbird" called after a fellow when he deserves the title no more than half a dozen of his feathered friends! He could never imagine what gave him the disagreeable epithet, unless it be his own individual hatred for the animal whose name clung to him like mud.

To be sure, the coat of the bird was striped, something like that of the detestable beastie; but so were the coats of many other birds, and he could never tell why he should be called a blackbird, either.

True, he loved the marshes for personal reasons; but who has seen a blackbird twist its toes around a reed stalk and sing like mad?

So, as we said, he named himself, constituting himself a town crier on behalf of his own concerns. "Bobolink! bobolink!" As often as the blackbird attempted to talk of himself, bobolink chimed in and drowned every

BOBOLINK
¾ Life-size.

other note. And he kept it up for two or three months, until everybody understood that he had given himself a proper name. And each year he returns to remind the skunk and blackbird that he is no other than himself, and to assure people that he is deserving of an original name, whatever else may be said of him.

The bobolink has a hard time! But still he named himself out of the glee of his heart, and he sings a fourth part of the year as only a bobolink can sing.

You can make almost anything you please of the song. Children sit on the fence-rails and mimic him, and "guess" what he says, and cry, "Spink, spank, spink," "meadow wink, meadow wink," "just think, just think," "don't you wink, don't you wink," "want a drink, want a drink?" Coming back to his real name, "bobolink, bobolink," as if, after all, that were the nearest right.

Shy, suspecting little birds, sharp of eye, fresh from a winter tour in the West Indies, they come exactly when they are expected. Bobolink makes no April fool of himself or anybody else, unless it be Master Skunk in his hollow tree, who rubs his eyes at the first word from Robert o'Lincoln. But the male birds have come in advance of their women folk, and roost high and dry out of reach of four-footed marauders. It is as if the mother bobolinks would be quite sure the spring storms are over before they put themselves in the way of housework.

The bobolinks nest would seldom be found if the foolish birds would keep a close mouth about the matter. It does seem as if they would learn after a while, but they don't. As soon as a stranger with two legs or four comes within sight of the spot, the birds set up what they intend for a warning cry, but which is in reality an "information call." Under its spell one can walk straight to the nest, which even yet, on account of its color and surroundings, may be taken for an innocent bunch of grass, provided one has as good eyes as the skunk has nose.

Now, taking all things into account, the bobolinks are the most sensible of people. Persons who ought to know better by experience and observation hurry on a journey, take no time to enjoy the scenery and the people that live along the route. At the journey's end they are depleted, tired, worn to skin and bone, and out of sorts with travel. Not so the bobolinks! They have no bones at the journey's end. They have fattened themselves into butter. They have put on flesh as the bare spring trees put on leaves, and the butternut takes in oil. All the way they eat and drink, and make as merry as they can with so much fat on them.

The yesterday's bird of mad music is to-day the bird of mad appetite. True, they may call out "chink" in passing, but "chink" means "chock-full," and people who delight in bobolink table-fare recognize the true meaning of the note.

Bobolink has forgotten to call his own name, so he answers to any nick-name the epicurean lovers of him please to call him by—"rice-bird," "reed-bird," "Boblincoln."

Do Birds Have Sense?

By John Burroughs

I was much amused lately by a half-dozen or more letters that came to me from some California school children who wrote to ask if I would please tell them whether or not birds have sense. One little girl said: "I would be pleased if you would write and tell me if birds have sense. I wanted to see if I couldn't be the first one to know." I felt obliged to reply to the children that we ourselves do not have sense enough to know just how much sense the birds do have, and that they do appear to have some, though their actions are probably the result of what we call instinct, or natural prompting like that of the bean-stalk when it climbs the pole.

How much or how little sense or judgment our wild neighbors have is hard to determine. The crows and other birds that carry shell-fish high in the air and then let them drop upon the rocks to break the shell show something very like reason, or a knowledge of the relation of cause and effect. Froude tells of some species of bird that he saw in South Africa flying amid the swarm of migrating locusts and clipping off the wings of the insects so that they would drop to the earth, where the birds could devour them at their leisure.

The birds probably think without knowing that they think; that is they have not self-consciousness.

Probably in a state of wild nature birds never make mistakes, but where they come in contact with our civilization and are confronted by new conditions, they very naturally make mistakes. For instance, their cunning in nest building sometimes deserts them. The art of the bird is to conceal its nest both as to position and as to material, and now and then it is betrayed into weaving into its structure showy and bizarre bits of this or that, which give its secret away and which seem to violate all the traditions of its kind. I have the picture of a robin's nest before me, upon the outside of which are stuck a small muslin flower, a leaf from a small calendar, and a photograph of a local celebrity. A more incongruous use of material in bird architecture it would be hard to find. I have been told of another robin's nest upon the outside of which the bird had fastened a wooden label from a near-by flower bed, marked "Wake Robin." Still another nest I have seen built upon a large, showy foundation of the paper-like flowers of *Antennaria,* or everlasting. The

wood thrush frequently weaves a fragment of newspaper or a white rag into the foundation of its nest. "Evil communications corrupt good manners." The newspaper and the rag-bag unsettle the wits of the birds. The phœbe-bird is capable of this kind of mistake or indiscretion. All the past generations of her tribe have built upon natural and, therefore, neutral sites, usually under shelving and overhanging rocks, and the art of adapting the nest to its surroundings, blending it with them, has been highly developed. But phœbe now frequently builds under our sheds and porches, where, so far as concealment is concerned, a change of material, say from moss to dry grass or shreds of bark, would be an advantage to her; but she departs not a bit from the family traditions; she uses the same woodsy mosses, which in some cases, especially when the nest is placed upon unevenly sawed timber, makes her secret an open one to all eyes.

It does indeed often look as if the birds had very little sense. Think of a bluebird, or an oriole, or a robin, or a jay, fighting for hours at a time its own image as reflected in a pane of glass; quite exhausting itself in its fury to demolish its supposed rival! Yet I have often witnessed this little comedy. It is another instance of how the arts of our civilization corrupt and confuse the birds. It may be that in the course of many generations the knowledge of glass will get into their blood, and they will cease to be fooled by it, as they may also in time learn what a poor foundation the newspaper is to build upon. The ant or the bee could not be fooled by the glass in that way for a moment.

Have the birds sense, as distinguished from instinct? Is a change of habits to meet new conditions, or the taking advantage of accidental circumstances, an evidence of sense? How many birds have taken advantage of the protection afforded by man in building their nests! How many of them build near paths and along roadsides, to say nothing of those that come to our dwellings! Even the quail seems to prefer the borders of the highway to the open fields. I have chanced upon only three quails' nests, and these were all by the roadside. One season a scarlet tanager, that had failed with her first nest in the woods, came to try again in a little cherry tree that stood in the open, a few feet from my cabin, where I could almost touch the nest with my hand as I passed. But in my absence again she came to grief, some marauder, probably a red squirrel, taking her eggs. It was clearly an act of judgment that caused this departure in the habits of a wood bird. Will her failure in this case cause her to lose faith in the protective influence of the shadow of a human dwelling? I hope not. I have known the turtledove to make a similar move, occupying an old robin's nest near my neighbor's cottage.

It would be interesting to know how long our chimney-swifts saw the open chimney stacks of the early settlers beneath them before they abandoned the hollow trees in the woods and entered them for nesting and roost-

ing purposes. Was the act an act of judgment, or simply an unreasoning impulse, like so much else in the lives of the wild creatures?

In the choice of nesting material the swift shows no change of habit. She still snips the small dry twigs from the tree tops and glues them together, and to the side of the chimney, with her own glue. The soot is a new obstacle in her way, and she does not yet seem to have learned to overcome it, as the rains often loosen it and cause her nest to fall to the bottom. She has a pretty way of trying to frighten you off when your head suddenly darkens the opening above her. At such times she leaves the nest and clings to the side of the chimney near it. Then, slowly raising her wings, she suddenly springs out from the wall and back again, making as loud a drumming with her wings in the passage as she is capable of. If this does not frighten you away, she repeats it three or four times. If your face still hovers above her, she remains quiet and watches you.

What a creature of the air this bird is, never touching the ground, so far as I know, and never tasting earthly food! The swallow does perch now and then and descend to the ground for nesting material; but the swift, I have reason to believe, even outrides the summer storms, facing them on steady wing, high in air. The twigs for her nest she gathers on the wing, sweeping along like children at a "merry-go-round" who try to seize a ring, or to do some other feat, as they pass a given point. If the swift misses the twig, or it fails to yield to her the first time, she tries again and again, each time making a wide circuit, as if to tame and train her steed a little and bring him up more squarely to the mark next time.

The swift is a stiff flyer; there appear to be no joints in her wings; she suggests something made of wires or of steel; yet the air of frolic and of superabundance of wing power is more marked with her than with any other of our birds. Her feeding and the twig-gathering seem like asides in a life of endless play. Several times both spring and fall I have seen swifts gather in immense numbers toward nightfall, to take refuge in large unused chimney stacks. At such times they seem to be coming together for some aerial festival or grand celebration; and, as if bent upon a final effort to work off some of their superabundant wing power before settling down for the night, they circle and circle high above the chimney top, a great cloud of them, drifting this way and that, all in high spirits and chippering as they fly. Their numbers constantly increase as other members of the clan come dashing in from all points of the compass. They seem to materialize out of empty air on all sides of the chippering, whirling ring. For an hour or more this assembling of the clan and this flight festival go on. The birds must gather in from whole counties, or from half a State. They have been on the wing all day, and yet now they seem as tireless as the wind, and as if unable to curb their powers.

Last fall they gathered in this way and took refuge for the night in a

large chimney stack in a city near me, for more than a month and a half. Several times I went to town to witness the spectacle, and a spectacle it was; ten thousand of them, I should think, filling the air above a whole square like a whirling swarm of huge black bees, but saluting the ear with a multitudinous chippering, instead of a humming. People gathered upon the sidewalks to see them. It was a rare circus performance, free to all. After a great many feints and playful approaches, the whirling ring of birds would suddenly grow denser above the chimney; then a stream of them, as if drawn down by some power of suction, would pour into the opening. Only a few seconds would this downward rush continue; as if the spirit of frolic had again got the upper hand of them, the ring would rise, and the chippering and circling go on. In a minute or two the same manœuver would be repeated, the chimney, as it were, taking its swallows at intervals to prevent choking. It usually took a half hour or more for the birds all to disappear down its capacious throat. There was always an air of timidity and irresolution about their approach to the chimney, just as there always is about their approach to the dead tree top from which they procure their twigs for nest-building. Many times did I see birds hesitate above the opening and then pass on. Apparently they had not struck it at just the right angle. On one occasion a solitary bird was left flying, and it took three or four trials either to make up its mind or to catch the trick of the descent. On dark or threatening or stormy days the birds would begin to assemble by mid-afternoon, and by four or five o'clock were all in their lodgings.

The chimney is a capacious one, forty or fifty feet high by nearly three feet square, yet it did not seem adequate to afford breathing space for so many birds. I was curious to know how they disposed themselves inside there. At the bottom was a small opening. Holding my ear to it, I could hear a continuous chippering and humming, as if the birds were still all in motion, like an agitated beehive. At nine o'clock this multitudinous sound of wings and voices was still going on, and doubtless it was kept up all night. What was the meaning of it? Was the press of birds so great that they needed to keep their wings moving to ventilate the shaft, as do certain of the bees in a crowded hive? Or were these restless spirits unable to fold their wings even in sleep? I was very curious to get a peep inside that chimney when the swifts were in it. So one afternoon this opportunity was afforded me by the removal of the large smoke-pipe of the oil steam boiler. This left an opening into which I could thrust my head and shoulders. The sound of wings and voices filled the hollow shaft. On looking up I saw the sides of the chimney for about half its length paved with the restless birds; they sat so closely together that their bodies touched. But a large number of them were constantly on the wing, showing against the sky light as if they were leaving the chimney. But they did not leave it. They rose up a few feet and then resumed their positions upon the sides. It was this movement that caused

the humming sound. All the while the droppings of the birds came down like a summer shower. At the bottom of the shaft was a mine of Peruvian guano three or four feet deep, with a dead swift here and there upon it. Probably one or more birds out of such a multitude died every night. I had fancied there would be many more. It was a long time before it dawned upon me what this uninterrupted flight within the chimney meant. Finally I saw that it was a sanitary measure; only thus could the birds keep from soiling each other with their droppings. Birds digest very rapidly, and had they all continued to cling to the sides of the wall, they would have been in a sad predicament before morning. Like other acts of cleanliness on the part of birds, this was doubtless the prompting of instinct and not of judgment. It was nature looking out for her own.

In view, then, of the doubtful sense or intelligence of the wild creatures, what shall we say of the new school of nature writers or natural history romancers that has lately arisen, and that reads into the birds and animals almost the entire human psychology? This, surely: so far as these writers awaken an interest in the wild denizens of the field and wood, and foster a genuine love of them in the hearts of the young people, so far is their influence good; but so far as they pervert natural history and give false impressions of the intelligence of our animals, catering to a taste that prefers the fanciful to the true and the real, is their influence bad. Of course, the great army of readers prefers this sugar-coated natural history to the real thing, but the danger always is that an indulgence of this taste will take away a liking for the real thing, or pervert its development. The knowing ones, those who can take these pretty tales with the pinch of salt of real knowledge, are not many; the great majority are simply entertained while they are being humbugged. There may be no very serious objection to the popular love of sweets being catered to in this field by serving up the life history of our animals in a story, all the missing links supplied, and all their motives and acts humanized, provided it is not done covertly and under the guise of a real history.

I am reminded of a mystery connected with a snake-skin, and a bird. Why does our great crested fly-catcher weave a snake-skin into its nest, or, in lieu of that, something that suggests a snake-skin, such as an onion-skin, or fish-scales, or a bit of oiled paper? It is thought by some persons that it uses the snake-skin as a kind of scarecrow, to frighten away its natural enemies. But think what this purpose in the use of it would imply. It would imply that the bird knew that there were among its enemies creatures that were afraid of snakes—so afraid of them that one of their faded and cast-off skins would keep them away. How could the bird obtain this knowledge? It is not afraid of the skin; why should it infer that squirrels, for instance, are? I am convinced there is nothing in this notion. In all the nests

that have come under my observation, the snake-skin was in faded fragments woven into the texture of the nest, and one would not be aware of its presence unless he pulled the nest to pieces. True, Mr. Frank Bolles reports finding a nest of this bird with a whole snake-skin coiled around a single egg; but it was the skin of a small garter-snake, six or seven inches long, and could not therefore have inspired much terror in the heart of the bird's natural enemies. Dallas Lore Sharp, author of that delightful book, "Wild Life Near Home," tells me he has seen a whole skin dangling nearly its entire length from the hole that contained the nest, just as he has seen strings hanging from the nest of the king-bird. The bird was too hurried or too careless to pull in the skin. Mr. Sharp adds that he cannot "give the bird credit for appreciating the attitude of the rest of the world toward snakes and making use of the fear." Then, a cast-off snake-skin looks very little like a snake. It is thin, shrunken, faded, papery, and there is no terror in it. Then, too, it is dark in the cavity of the nest, consequently the skin could not serve as a scarecrow in any case. Hence, whatever its purpose may be, it surely is not that. It looks like a mere fancy or whim of the bird. There is that in its voice and ways that suggests something a little uncanny. Its call is more like that of the toad than that of a bird. If the toad did not always swallow its own cast-off skin, the bird would probably seize upon that.

At the best we can only guess at the motives of the birds. As I have elsewhere said, they nearly all have reference in some way to the self-preservation of these creatures. But how the bits of an old snake-skin in a bird's nest can contribute specially to this end, I cannot see.

Nature is not always consistent; she does not always choose the best means to a given end. For instance, all the wrens seem to use about the best material at hand for their nests except our house-wren. What can be more unsuitable, untractable, for a nest in a hole or cavity than the twigs the house-wren uses? Dry grasses or bits of soft bark would bend and adapt themselves easily to the exigencies of the case, but stiff, unyielding twigs! What a contrast to the suitableness of the material the humming-bird uses—the down of some plant, which seems to have a poetic fitness!

Beside my path in the woods a downy woodpecker, late one fall, drilled a hole in the top of a small dead black birch for his winter quarters. My attention was first called to his doings by his white chips upon the ground. Every day as I passed I would rap upon his tree, and if he was in he would appear at his door and ask plainly enough what I wanted now. One day when I rapped, something else appeared at the door—I could not make out what. I continued my rapping, when out came two flying-squirrels. On the tree being given a vigorous shake, it broke off at the hole, and the squirrels went sliding down the air to the foot of a hemlock, up which they disappeared. They had dispossessed Downy of his house, had carried in some grass and

leaves for a nest, and were as snug as a bug in a rug. Downy drilled another cell in a dead oak farther up the hill, and, I hope, passed the winter there unmolested. Such little incidents, comic or tragic, as we happen to look at them, are happening all about us, if we have eyes to see them.

The next season, near sundown of a late November day, I saw Downy trying to get possession of a hole not his own. I chanced to be passing under a maple when white chips upon the ground again caused me to scrutinize the branches overhead. Just then I saw Downy come to the tree, and, hopping around on the under side of a large dry limb, begin to make passes at something with his beak. Presently I made out a round hole there, with something in it returning Downy's thrusts. The sparring continued some moments. Downy would hop away a few feet, then return to the attack, each time to be met by the occupant of the hole. I suspected an English sparrow had taken possession of Downy's cell in his absence during the day, but I was wrong. Downy flew to another branch, and I tossed up a stone against the one that held the hole, when, with a sharp, steely note, out came a hairy woodpecker and alighted on a near-by branch. Downy then had the "cheek" to try to turn his large rival out of doors; and it was Hairy's cell, too: one could see that by the size of the entrance. Thus loosely does the rule of meum and tuum obtain in the woods. There is no moral code in nature. Might reads right. Man in communities has evolved ethical standards of conduct, but nations, in their dealings with one another, are still largely in a state of savage nature, and seek to establish the right, as dogs do, by the appeal to battle.

One season a wood-duck laid her eggs in a cavity in the top of a tall yellow birch near the spring that supplies my cabin with water. A bold climber "shinned" up the fifty or sixty feet of rough tree-trunk and looked in upon the eleven eggs. They were beyond the reach of his arm, in a well-like cavity over three feet deep. How would she get her young up out of that well and down to the ground? We watched, hoping to see her in the act. But we did not. She may have done it at night or very early in the morning. All we know is that when Amasa one morning passed that way, there sat eleven little tufts of black-and-yellow down in the spring, with the mother duck near by.

Our moral code must in some way have been evolved from our rude animal instincts. It came from within; its possibilities were all in nature. If not, where were they?

I have seen disinterested acts among the birds, or what looked like such, as when one bird will feed the young of another species when it hears it crying for food. But that a bird would feed a grown bird of another species, or even of its own, to keep it from starving, I have my doubts.—*Atlantic Monthly.*

94

HORNED LARK.
½ Life-size.

The Horned Lark (*Otocoris alpestris praticola*)

By Henry W. Henshaw

Length, about seven and three-quarter inches. The black mark across the breast and the small, pointed tufts of dark feathers above and behind the eyes distinguish the bird.

Range: Breeds throughout the United States (except the South Atlantic and Gulf States) and Canada; winters in all the United States except Florida.

Habits and economic status: Horned larks frequent the open country, especially the plains and deserts. They associate in large flocks, are hardy, apparently delighting in exposed situations in winter, and often nest before snow disappears. The flight is irregular and hesitating, but in the breeding season the males ascend high in air, singing as they go, and pitch to the ground in one thrilling dive. The preference of horned larks is for vegetable food, and about one-sixth of this is grain, chiefly waste. Some sprouting grain is pulled, but drilled grain is safe from injury. California horned larks take much more grain than the eastern birds, specializing on oats, but this is accounted for by the fact that oats grow wild over much of the State. Weed seeds are the largest single element of food. The insect food, about 20 per cent of the whole, includes such pests as May beetles and their larvae (white grubs), leaf beetles, clover-leaf and clover-root weevils, the potato-stalk borer, nut weevils, billbugs, and the chinch bug. Grasshoppers are a favorite food, and cutworms are freely eaten. The horned larks, on the whole, may be considered useful birds.

The horned lark is a bird of the open fields, common not only during the summer but still more abundant during the cold winter months, even when the ground is covered with snow.

This lark is about the size of an English sparrow, but is very differently marked. The general color is a pinkish brown, the throat is yellow, there is a large black mark on the breast, and just above and behind the eyes are small tufts of black feathers which, when erect, have the appearance of horns, a feature from which the bird derives its name. In the country one may often see companies of horned larks running along the roadsides, in plowed fields and closely grazed pastures, or, when the ground is covered with snow, in barnyards, feeding on the waste grain left by stock. When encountered on a road or a foot path, they often run before the observer for long distances, but if suddenly startled they take wing with a series of sharp whistling notes, flying with hesitating movement to some adjoining field, or making a considerable circuit and returning to the spot whence they were startled.

The horned lark begins its nesting operations very early, raising two or three broods in a year, and the first of its nests is often built before the snow has wholly disappeared. Commonly placed in a slight depression in the

ground in meadows or cultivated fields, it is well and carefully made of corn husks, grasses and horse hair, but as the weather warms less care is used in construction. The eggs, from three to five in number, are olive, buff streaked and spotted with drab and lavender.

A most interesting habit of the horned lark is its notable preference for bare ground. Twenty-nine per cent of all the birds seen in plowed fields during our year's statistical work on Illinois birds consisted of this one species. Its next decided preference was for pastures and fields of stubble. As would naturally be supposed, the food of this bird differs with the changing seasons. From an almost entirely vegetable diet in winter it gradually changes to a midsummer diet about equally divided between insects and seeds. Taking the year together, something more than a fifth of the food has been found to consist of insects, about an eighth of it of grain, and the remainder of seeds of weeds. Practically all the corn and oats eaten was waste, as the bird feeds only on the ground.

There can be no doubt that this lark is, on the whole, much more helpful to the farmer than injurious—a fact of some importance since it remains with us throughout the year and is among the more abundant of our farm birds.

Mr. Audubon says: "The male soars into the air, sings with cheerfulness over the resort of his mate, and roosts beside her and his nest on the ground, having at this season a very remarkable appearance in the development of the black and horn-like egrets." Mr. Langille gives an interesting account of the male's song habits. "Hearing its song, now quite familiar to me, I strolled warily through the open field, hoping to find its nest. But whence came the song? It was as puzzling as the voice of a ventriloquist. Now it seemed on the right, and now on the left, and now in some other direction. Presently I caught the way of the sound, and lo! its author was soaring high in the air, moving in short curves up, up, singing for a few moments as it sailed with expanded wings before each flitting curve upward, till it became a mere speck in the zenith, and finally I could scarcely tell whether I saw it or not. But I still heard the song, one that never can be mistaken, so unlike is it to that of any other bird." Finally the bird started to descend and Mr. Langille says: "Down, down it comes, meteor-like, with wings almost closed, until one fears it will dash out its life on the earth. But no, it alights in safety, and steps along with all its wonted stateliness."

Our Bird Neighbors

By Theodore Roosevelt

Sagamore Hill takes its name from the old Sagamore Mohannis, who, as chief of his little tribe, signed away his rights to the land two centuries and a half ago. The house stands right on the top of the hill, separated by fields and belts of woodland from all other houses, and looks out over the bay and the Sound. We see the sun go down beyond long reaches of land of water. Many birds dwell in the trees round the house or in the pastures and the woods near by, and of course in winter gulls, loons, and wild fowl frequent the waters of the bay and the Sound.

Most of the birds in our neighborhood are the ordinary home friends of the house and the barn, the wood lot and the pasture; but now and then the species make queer shifts. The cheery quail, alas! are rarely found near us now; and we no longer hear the whippoorwills at night. But some birds visit us now which formerly did not. When I was a boy neither the black-throated green warbler nor the purple finch nested around us, nor were bobolinks found in our fields. The black-throated green warbler is now one of our commonest summer warblers; there are plenty of purple finches; and, best of all, the bobolinks are far from infrequent. I had written about these new visitors to John Burroughs, and once when he came out to see me I was able to show them to him.

Around our West Virginia home many of the birds were different from our Long Island friends. There were mocking birds, the most attractive of all birds, and blue grosbeaks, and cardinals and summer redbirds instead of scarlet tanagers, and those wonderful singers, the Bewick's wrens, and Carolina wrens.

Like most Americans interested in birds and books, I know a good deal about English birds as they appear in books. I know the lark of Shakespeare and Shelley and the Ettrick Shepherd; I know the nightingale of Milton and Keats; I know Wordsworth's cuckoo; I know mavis and merle singing in the merry green wood of the old ballads; I knew Jenny Wren and Cock Robin of the nursery books. Therefore, I had always much desired to hear the birds in real life; and the opportunity offered in June, 1910, when I spent two or three weeks in England. As I could snatch but a few hours from a very exacting round of pleasures and duties, it was necessary for me to be with some companion who could identify both song and singer. In Sir Edward Grey, a keen lover of outdoor life in all its phases, and a delightful companion, who knows the songs and ways of English birds as very few do know them, I found the best possible guide.

We left London on the morning of June 9, twenty-four hours before I sailed from Southampton. Getting off the train at Basingstoke, we drove to the pretty, smiling valley of the Itchen. Here we tramped for three or four hours, then again drove, this time to the edge of the New Forest, where we first

took tea at an inn and then tramped through the forest to an inn on its other side, at Brockenhurst. At the conclusion of our walk my companion made a list of the birds we had seen, putting an asterisk (*) opposite those which we had heard sing. There were forty-one of the former and twenty-three of the latter, as follows:

*Thrush, *blackbird, *lark, *yellowhammer, *robin, *wren, *golden-crested wren, *goldfinch, *chaffinch, *greenfinch, pied wagtail, sparrow, *dunnock (hedge accentor), missel thrush, starling, rook, jackdaw, *blackcap, *garden warbler, *willow warbler, *chiffchaff, *wood warbler, treecreeper, *reed bunting, *sedge warbler, coot, water hen, little grebe (dabchick), tufted duck, wood pigeon, stock dove, *turtle dove, peewit, tit (? coal tit), *cuckoo, *nightjar, *swallow, martin, swift, pheasant, partridge.

Birds were plentiful; I know few places in America where one would see such an abundance of individuals, and I was struck by seeing such large birds as coots, water hens, grebes, tufted ducks, pigeons, and peewits. In places in America as thickly settled as the valley of the Itchen I should not expect to see any like number of birds of this size.

The bird that most impressed me on my walk was the blackbird. I had already heard nightingales in abundance near Lake Como, and had also listened to larks, but I had never heard either the blackbird, the song thrush, or the blackcap warbler; and while I knew that all three were good singers, I did not know what really beautiful singers they were. Blackbirds were very abundant, and they played a prominent part in the chorus which we heard throughout the day on every hand, though perhaps loudest the following morning at dawn. In its habits and manners the blackbird strikingly resembles our American robin, and indeed looks exactly like a robin with a yellow bill and coal-black plumage. It hops everywhere over the lawns, just as our robin does, and it lives and nests in the gardens in the same fashion. Its song has a general resemblance to that of our robin, but many of the notes are far more musical, more like those of our wood thrush. Indeed, there were individuals among those we heard certain of whose notes seemed to me almost to equal in point of melody the chimes of the wood thrush; and the highest possible praise for any song-bird is to liken its song to that of the wood thrush or hermit thrush. I certainly do not think that the blackbird has received full justice in the books. I knew that he was a singer, but I really had no idea how fine a singer he was. I suppose one of his troubles has been his name, just as with our own catbird. When he appears in the ballads as the merle, bracketed with his cousin the mavis, the song thrush, it is far easier to recognize him as the master singer that he is. It is a fine thing for England to have such an asset of the countryside, a bird so common, so much in evidence, so fearless, and such a really beautiful singer.

The thrush is a fine singer too, a better singer than our American robin, but to my mind not at the best quite as good as the blackbird at his best; although

often I found difficulty in telling the song of one from the song of the other, especially if I heard only two or three notes.

The larks were, of course, exceedingly attractive. It was fascinating to see them spring from the grass, circle upwards, steadily singing and soaring for several minutes, and then return to the point whence they had started. As my companion pointed out, they exactly fulfilled Wordsworth's description; they soared but did not roam. It is quite impossible wholly to differentiate a bird's voice from its habits and surroundings. Although in the lark's song there are occasional musical notes, the song as a whole is not very musical, but it is so joyous, buoyant, and unbroken, and uttered under such conditions, as fully to entitle the bird to the place he occupies with both poet and prose writer.

The most musical singer we heard was the blackcap warbler. To my ear its song seemed more musical than that of the nightingale. It was astonishingly powerful for so small a bird; in volume and continuity it does not come up to the songs of the thrushes and of certain other birds, but in quality, as an isolated bit of melody, it can hardly be surpassed.

Among the minor singers the robin was noticeable. We all know this pretty little bird from the books, and I was prepared to find him as friendly and attractive as he proved to be, but I had not realized how well he sang. It is not a loud song, but very musical and attractive, and the bird is said to sing practically all through the year. The song of the wren interested me much, because it was not in the least like that of our house wren, but, on the contrary, like that of our winter wren. The theme is the same as the winter wren's, but the song did not seem to me to be as brilliantly musical as that of the tiny singer of the North Woods. The sedge warbler sang in the thick reeds a mocking ventriloquial lay, which reminded me at times of the less pronounced parts of our yellow-breasted chat's song. The cuckoo's cry was singularly attractive and musical, far more so than the rolling, many times repeated note of our rain-crow.

We did not reach the inn at Brockenhurst until about nine o'clock, just at nightfall, and a few minutes before that we heard a night-jar. It did not sound in the least like either our whippoorwill or our night-hawk, uttering a long-continued call of one or two syllables, repeated over and over. The chaffinch was very much in evidence, continually chaunting its unimportant little ditty. I was pleased to see the bold, masterful missel thrush, the stormcock as it is often called; but this bird breeds and sings in the early spring, when the weather is still tempestuous, and had long been silent when we saw it. The starlings, rooks, and jackdaws did not sing, and their calls were attractive merely as the calls of our grackles are attractive; and the other birds that we heard sing, though they played their part in the general chorus, were performers of no especial note, like our tree-creepers, pine warblers, and chipping-sparrows. The great spring chorus had already begun to subside, but the woods and fields were still vocal with beautiful bird music, the country was very lovely, the inn as comfortable as

possible, and the bath and supper very enjoyable after our tramp; and altogether I passed no pleasanter twenty-four hours during my entire European trip.

Ten days later, at Sagamore Hill, I was among my own birds, and was much interested as I listened to and looked at them in remembering the notes and actions of the birds I had seen in England. On the evening of the first day I sat in my rocking chair on the broad veranda, looking across the Sound towards the glory of the sunset. The thickly grassed hillside sloped down in front of me to a belt of forest from which rose the golden, leisurely chiming of the wood thrushes, chanting their vespers; through the still air came the warble of vireo and tanager; and after nightfall we heard the flight song of an oven-bird from the same belt of timber. Overhead an oriole sang in the weeping elm, now and then breaking his song to scold like an overgrown wren. Song-sparrows and catbirds sang in the shrubbery; one robin had built its nest over the front and one over the back door, and there was a chippy's nest in the wistaria vine by the stoop. During the next twenty-four hours I saw and heard, either right around the house or while walking down to bathe, through the woods, the following forty-two birds:

Little green heron, night heron, red-tailed hawk, yellow-billed cuckoo, kingfisher, flicker, humming-bird, swift, meadow-lark, red-winged blackbird, sharp-tailed finch, song-sparrow, chipping-sparrow, bush-sparrow, purple finch, Baltimore oriole, cowbunting, robin, wood thrush, thrasher, catbird, scarlet tanager, red-eyed vireo, yellow warbler, black-throated green warbler, kingbird, wood peewee, crow, blue jay, cedar-bird, Maryland yellowthroat, chickadee, black and white creeper, barn swallow, white-breasted swallow, ovenbird, thistle-finch, vesper-finch, indigo bunting, towhee, grasshopper-sparrow, and screech owl.

The birds were still in full song, for on Long Island there is little abatement in the chorus until about the second week of July, when the blossoming of the chestnut trees patches the woodland with frothy greenish yellow.

Our most beautiful singers are the wood thrushes; they sing not only in the early morning, but throughout the long, hot June afternoons. Sometimes they sing in the trees immediately around the house, and if the air is still we can always hear them from among the tall trees at the foot of the hill. The thrashers sing in the hedgerows beyond the garden, the catbirds everywhere. The catbirds have such an attractive song that it is extremely irritating to know that at any moment they may interrupt it to mew and squeal. The bold, cheery music of the robins always seems typical of the bold, cheery birds themselves. The Baltimore orioles nest in the young elms around the house, and the orchard orioles in the apple trees near the garden and outbuildings. Among the earliest sounds of spring is the cheerful, simple, homely song of the song-sparrow; and in March we also hear the piercing cadence of the meadow-lark—to us one of the most attractive of all bird calls. Of late years now and then we hear the rollicking, bubbling melody of the bobolink in the pastures back of the barn; and when the full chorus of these and of many other of the singers of spring is dying down,

11

AMERICAN BLUE-JAY.
⅞ Life-size

there are some true hot-weather songsters, such as the brightly hued indigo buntings and thistle-finches. Among the finches one of the most musical and plaintive songs is that of the bush-sparrow—I do not know why the books call it field-sparrow, for it does not dwell in the open fields like the vesper-finch, the savannah-sparrow, and the grasshopper-sparrow, but among the cedars and bayberry bushes and young locusts in the same places where the prairie warbler is found. Nor is it only the true songs that delight us. We love to hear the flickers call, and we readily pardon any one of their number which, as occasionally happens, is bold enough to wake us in the early morning by drumming on the shingles of the roof. In our ears the red-winged blackbirds have a very attractive note. We love the screaming of the red-tailed hawks as they soar high overhead, and even the calls of the night herons that nest in the tall water maples by one of the wood ponds on our place, and the little green herons that nest beside the salt marsh. It is hard to tell just how much of the attraction in any bird-note lies in the music itself and how much in the associations. This is what makes it so useless to try to compare the bird songs of one country with those of another. A man who is worth anything can no more be entirely impartial in speaking of the bird songs with which from his earliest childhood he has been familiar than he can be entirely impartial in speaking of his own family.—*The Outlook.*

Black-Headed Grosbeak
(*Zamelodia melanocephala*)

Length, about 8¼ inches.

Range: Breeds from the Pacific coast to Nebraska and the Dakotas, and from southern Canada to southern Mexico; winters in Mexico.

Habits and economic status: The black-headed grosbeak takes the place in the West of the rosebreast in the East, and like it is a fine songster. Like it also, the blackhead readily resorts to orchards and gardens and is common in agritural districts. The bird has a very powerful bill and easily crushes or cuts into the firmest fruit. It feeds upon cherries, apricots and other fruits, and also does some damage to green peas and beans, but it is so active a foe of certain horticultural pests that we can afford to overlook its faults. Several kinds of scale insects are freely eaten, and one, the black olive scale, constitutes a fifth of the total food. In May many cankerworms and codling moths are consumed, and almost a sixth of the bird's seasonal food consists of flower beetles, which do incalculable damage to cultivated flowers and to ripe fruit. For each quart of fruit consumed by the black-headed grosbeak it destroys in actual bulk more than one and one-half quarts of black olive scales and one quart of flower beetles, besides a generous quantity of codling moth pupæ and cankerworms. It is obvious that such work as this pays many times over for the fruit destroyed.

The Blue Jay (*Cyanocitta cristata.*)

By William Dutcher

Mr. Bluejay, full o' sass,
In them baseball clothes o' his,
Sportin' 'round the orchard jes'
Like he owned the premises.
—*James Whitcomb Riley.*

Length, 11½ inches. The brilliant blue of the wings and tail combined with the black crescent of the upper breast and the crested head distinguish this species.

Range: Resident in the eastern United States and southern Canada, west to the Dakotas, Colorado and Texas.

It certainly is a tyro in bird study who does not know this noisy braggart fellow with his inquisitive ways. Such characteristics usually repel, but in the case of the blue jay they rather attract, and no one can help admiring this conspicuous member of the Corvine family. He has all the cunning of his somber-hued cousins the crows, but not their sedateness; he is life and activity personified.

Audubon, although he admired the beauty of the blue jay, did not give him a good reputation as the following pen picture shows: "Reader, look at the plate on which are represented three individuals of this beautiful species—rogues though they be, and thieves, as I would call them, were it fit for me to pass judgment on their actions. See how each is enjoying the fruits of his knavery, sucking the egg which he has pilfered from the nest of some innocent dove or harmless partridge. Who could imagine that a form so graceful, arrayed by nature in a garb so resplendent, should harbor so much mischief;—that selfishness, duplicity and malice should form the moral accompaniments of so much physical perfection! Yet so it is, and how like beings of a much higher order, are these gay deceivers. Aye, I could write you a whole chapter on this subject, were not my task of a different nature."

Alexander Wilson esteemed the blue jay a frivolous fellow: "This elegant bird is distinguished as a kind of beau among the feathered tenants of our woods, by the brilliancy of his dress; and, like most other coxcombs, makes himself still more conspicuous by his loquacity, and the oddness of his tones and gestures. In the charming season of spring, when every thicket pours forth harmony, the part performed by the jay always catches the ear. He appears to be, among his fellow-musicians, what the trumpeter is in a band, some of his notes having no distant resemblance to the tones of that instrument. These he has the faculty of changing through a great variety of modulations, according to the particular humor he happens to be in. When disposed for ridicule, there is scarce a bird whose peculiarities of song he cannot tune his notes to. When engaged in the blandishments of love they resemble the soft chatterings of a duck; and, while he nestles among the thick branches of the cedar, are scarce heard at a few paces distance; but no sooner does he discover your approach than he sets up a sudden and vehement outcry, flying off and screaming with all his might, as if he called the whole

feathered tribes of the neighborhood to witness some outrageous usage he had received. When he hops undisturbed among the high branches of the oak and hickory, they become soft and musical; and his call of the female, a stranger would readily mistake for the repeated creakings of an ungreased wheelbarrow. All these he accompanies with various nods, jerks and other gesticulations, for which the whole tribe of jays is so remarkable, that, with some other peculiarities, they might have very well justified the great Swedish naturalist in forming them into a separate genus by themselves."

Of the more modern writers on the life-history of the blue jay, the late Major Bendire says: "Few of our native birds compare in beauty of plumage and general bearing with the blue jay, and, while one cannot help admiring him on account of amusing and interesting traits, still even his best friends cannot say much in his favor, and, though I have never caught one actually in mischief, so many close observers have done so, that one cannot very well, even if so inclined, disprove the principal charge brought against this handsome freebooter."

It is an unfortunate fact that if a bad name is attached to a person or a bird it is hard work to live it down, even though the bearer has been condemned on hearsay evidence. The story of guilt may have been started on the most trivial evidence, but every time it is repeated it gains in strength and is soon magnified into huge proportions; and what might have been easily explained at the outset, by a careful examination into the facts, casts a lifelong slur on the character of an innocent victim.

Even so careful and exact a writer as the late Major Bendire is compelled to add from his strict sense of justice, that he had "never caught a blue jay in mischief." The writer's experience with this bird is exactly parallel with that of Major Bendire, and he is therefore loth to believe all the bad stories that have been printed about the noisy, handsome jay.

Probably the most accurate brief respecting the blue jay's feeding habits that has ever been written is by Mr. F. E. L. Beal. After citing three cases of field observers who saw blue jays in the act of sucking eggs or taking young birds, Mr. Beal adds: "In view of such explicit testimony from observers whose accuracy cannot be impeached, special pains have been taken to ascertain how far the charges were sustained by a study of the bird's food. An examination was made of 292 stomachs collected in every month of the year from 22 states, the District of Columbia and Canada. The real food is composed of 24.3 per cent of animal matter and 75.7 per cent of vegetable matter. The animal food is chiefly made up of insects, with a few spiders, myriapods, snails and small vertebrates, such as fish, salamanders, tree-frogs, mice and birds. Everything was carefully examined which might by any possibility indicate that birds or eggs had been eaten, but remains of birds were found only in two, and the shells of small birds' eggs in three of the 292 stomachs. One of these, taken on February 10, contained the bones, claws, and a little skin of a bird's foot. Another, taken on June 24, contained remains of a young bird. The three stomachs with birds' eggs

were collected in June, August and October. The shell eaten in October belonged to the egg of some larger bird like the ruffled grouse, and, considering the time of the year, was undoubtedly merely an empty shell from an old nest. Shells of eggs which were identified as those of domestic fowls, or some bird of equal size, were found in 11 stomachs collected at irregular times during the year. This evidence would seem to show that more eggs of domestic fowls than of wild birds are destroyed, but it is much more probable that these shells were obtained from refuse heaps about farm houses.

Insects are eaten in every month in the year. The great bulk consists of beetles, grasshoppers and caterpillars. The average for the year is 23 per cent, but in August it reaches 66 per cent. Three-fourths of the blue jay's food consists of vegetable matter, 42 per cent of which consists of "mast," under which are grouped large seeds of trees and shrubs, such as acorns, chestnuts, beechnuts, chinquapins, and some others. Blue jays prefer mast to corn, or indeed any other vegetable food, for they eat the greatest amount at a time when fruit, grain and other things are most abundant. The blue jay gathers its fruit from nature's orchard and vineyard, and not from man's; corn is the only vegetable food for which the farmer suffers any loss, and here the damage is small. In fact, the examination of nearly 300 stomachs shows that the blue jay certainly does far more good than harm.

Their nesting places vary greatly as to kind of trees selected and position in the tree. Sites may be found in conifers and also in deciduous trees, and even in shrubbery. The nest is usually bulky, but compactly built of twigs, bark, moss, leaves and various other materials. A set of eggs varies from 4 to 6.

As parents, blue jays are patterns. Whatever may be their reputation regarding the young of other birds, there is no question regarding their extreme solicitude for their own offspring.

The blue jay's popular screams are "Jay," "D Jay" and "Thief"—all of which he speaks plainly and these signals guard the field and forest from hawk, owl, crow, squirrel, etc.

WE THANK THEE

For flowers that bloom about our feet;
For tender grass, so fresh, so sweet;
For song of a bird, and hum of bee;
For all things fair we hear or see,
Father in heaven, we thank Thee!

For blue of stream and blue of sky;
For pleasant shade of branches high;
For fragrant air and cooling breeze;
For beauty of the blooming trees,
Father in heaven, we thank Thee!

—*Ralph Waldo Emerson.*

The Blue Jay

By Henry W. Roby

You saucy, cerulean jay,
You chatter and clatter all day;
From the dawn 'till the dark
Round the lawn and the park,
You keep up a fractious foray.

You meddlesome master of spite,
A conflict affords you delight;
From the day of your birth,
In your madness or mirth,
You're always in search of a fight.

But still you're a cowardly jay;
If a kingfisher ventures your way,
You abandon your pride
And you sneak off and hide
And lurk in the bushes all day.

And such a malevolent thief,
You bring all your kindred to grief,
And make the Lord wish
He had made you a fish
Chained down to a submarine reef.

You rob all the squirrels and birds,
You plunder the flocks and the herds,
You filch from the hens
And the pigs in their pens,
And steal like the Kaffirs and Kurds.

No wonder men call you a "Jay,"
And hate you from Nome to Cathay!
But the reason is plain
Why you're pompous and vain,
God wanted one wingster that way.

The Robin (*Planesticus migratorius*).

By T. Gilbert Pearson

Length, 10 inches.

Range: Breeds in the United States (except the Gulf States), Canada, Alaska, and Mexico; winters in most of the United States and south to Guatemala.

Habits and economic status: In the North and some parts of the West the robin is among the most cherished of our native birds. Should it ever become rare where now common, its joyous summer song and familiar presence will be sadly missed in many a homestead. The robin is an omnivorous feeder, and its food includes many orders of insects, with no very pronounced preference for any. It is very fond of earthworms, but its real economic status is determined by the vegetable food, which amounts to about 58 per cent of all. The principal item is fruit, which forms more than 51 per cent of the total food. The fact that in the examination of over 1,200 stomachs the percentage of wild fruit was found to be five times that of the cultivated varieties suggests that berry-bearing shrubs, if planted near the orchard, will serve to protect more valuable fruits. In California in certain years it has been possible to save the olive crop from hungry robins only by the most strenuous exertions and considerable expense. The bird's general usefulness is such, however, that all reasonable means of protecting orchard fruit should be tried before killing the birds.

No bird holds so prominent a place in the minds of the American people as the robin. It is distinctively a companion of man, and wherever his hand has cleared the wilderness the robin has followed. From Mexico to the Yukon the traveler meets it, and the residents will tell him of its coming and going. It has passed into the literature of the country, and one reads of it in the books of science and of romance. Poets weave its image into their witchery of rhyme, lovers fondly spy upon its wooing, and by the fireside of every household children lisp its name when stories are told in the twilight.

Heedless indeed is the ear that does not harken when the robin sings. Loud and clear it calls at dawn, and sweet are the childhood memories it brings of fresh green fields swept by gentle winds and apple blossoms filled with dew.

One spring, a pair built their nest on the limb of a balsam standing beside a much-used walk near my home. In gathering the material for the nest, the greatest care was exercised to work at those hours when there was the least chance of being observed. Thus, the greater part was done in the early morning when few people were astir. Perhaps one reason for this was that the blades of dead grass, twigs, and other nesting material, were then damp and pliable from the dews of night, and were much more easily woven into position than after they had become dry and brittle. Only during the last few days of construction did I detect the birds working in the afternoon. The mud for their nest was found by a little pool at the end of a leaky horse-trough.

ROBIN.
Life-size.

On April 18 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, her bill pointing upward at a sharp angle from the other. She flew off the first day when the half-hundred boys who frequented the walk came along on their way to dinner. But she soon became accustomed to them, and would sit quietly, although numerous heads passed within five or six feet. No one disturbed the nest with its four blue eggs, and on May 6 I saw her feeding the young. Four days after this event, I noticed the heads of the younglings bobbing above the rim of the nest. They were gaining strength rapidly.

The morning of May 17 was cool, and 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 neither 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. Each had gathered itself into as small a space as possible, and, with head drawn 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 explore which they dared not yet trust their strength. The fourth one could not be found. The next day two others disappeared, after spending some hours of joyous, happy life on the grass and in the shrubbery. I strongly suspected the academy cat knew where they had gone.

Knowing that the family would never return to the nest, I removed it from the limb, for I wanted to see how the wonderful structure was put together. 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. Intertwined with these were twenty fragments of weed stalks and grass stems. The yellow clay cup, which came next inside, varied in thickness 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 it together, and now, last of all, came the smooth, dry carpet of fine grass. The whole structure measured eight inches across he top; inside it was three inches in width, and one and a half deep. It was one of those wonderful objects which is made for a purpose and it had served that purpose well.

It is good to watch the robins when a touch of autumn is in the air and the wander-lust is strong upon them. On rapidly beating wings they drive swiftly across the fields, or pause on the topmost spray of a roadside tree and look eagerly away to the southward. Their calls are sharp and inquisitive. Clearly the unsuppressed excitement of starting on a long journey pervades their nature. In a little while they will be gone.

Later you may find them in their winter home, feeding on the black gum trees in a Carolina swamp, the berries of the China tree in Georgia, or the fruit

of the cabbage palmetto in Florida. But their whole nature seems to have suffered change. No cheerful notes of song await you, no gathering of food from the grass on the lawn, no drinking from the cup on the window sill, none of the confiding intimacies so dear to their friends at the North. We see them in flocks, wild and suspicious. Often they gather to feed on the great pine barrens far from the abode of man. They grow fat from much eating, and are hunted for the table. Recently I found strings of them in the markets of Raleigh, and was told they were worth sixty cents a dozen, the highest price I had ever been asked for them.

That protection should be extended to the robin because of its economic value as a destroyer of injurious insects many observers unite in stating, despite the objection sometimes raised to his fondness for small fruits. The United States Department of Agriculture, which looks so carefully into various subjects of vital importance to our country, sent Mr. W. L. McAtee, a brilliant naturalist, to Louisiana the past winter, and he made many observations on the feeding habits of these birds. Under date of February 20, he reported:

"I collected twelve robins near here yesterday, and got the following results from an examination of their gizzards: Eight had eaten nothing but insects, the other four had taken respectively 95, 80, 65 and 0 per cent of insects and other invertebrates. The insects eaten included grasshoppers, bugs, beetles, beetle larvae, and caterpillars, including cut worms. Another day I collected three robins which had eaten insects, including larvae of crane flies, which are sometimes known as leather-jackets. The larvae feed on the roots of grasses, including grain crops and other plants, and are sometimes quite injurious. Each of the three birds had eaten one or more specimens of leaf beetle, a plant feeder, and injurious. On a basis of the eighteen stomachs I have examined this month, I consider the robin to be essentially an insectivorous bird in Louisiana in February. I notice that great numbers of the robins feed in open grassy fields, where their diet must consist largely of animal matter, as the birds do not eat weed seeds.

The Crossbill (*Loxia curvirostra minor*).

By W. Leon Dawson

Length, .66 inches.

Range, northern North America, but sparingly in southeastern United States.

There are several species of northern birds which behave as if they had been moon-struck on some chilly arctic night and whose most ardent friends as a consequence cannot deny that they are a little "queer"; the red crossbills, for example,—dear unsophisticated mortals, who are still following the Julian calendar, and that only spasmodically. Normally confined to the coniferous timber of the Canadian highlands, they nevertheless drift south in straggling flocks and

RED CROSSBILLS.
♂ Life-size.

in every unmethodical fashion, and occasionally come upon us in great hordes which even the park policemen notice.

Then in spring, either because they dread to face renewed privations or because they vary their plans, fare with the lotus buds of forgetfulness in the balmy southlands, some linger to nest and spend a careless summer. Especially is this the case in the Alleghenies and in the mountain regions of New York and New England. The nesting takes place according to no known law, eggs having been taken in mid-winter where the snow lay deep upon the ground, and again in July. And although conifers are the sites usually chosen, the birds are not particular in this matter either—a leafless maple will do as well.

The crossbill owes particular mandibles to an age-long hankering for pine seeds—a desire fully satisfied according to the fashion of that Providence which works so variously through nature, and whose method we are pleased to call evolution. The bill of the bird was not meant for an organ of the finest precision, and Buffon, the Deist, once won a cheap applause by railing at the Almighty for a supposed oversight in this direction; but as a matter of fact its wonderful crossed mandibles enable the crossbill to do what no other bird can, viz., pry open the scales of a pine cone and extract the tiny seed with its tongue. Besides this the bird is not so awkward in the use of its bill as was formerly supposed, since it frequently alights on the ground and picks up the fallen seeds, together with other food. Apples, left hanging and mellowed by the frosts, are favorite winter tidbits, and the birds have been accused of doing trifling damages to the grain.

Crossbills give out an intermittent rattling cry or excited titter, tew, tew, tew while feeding. The flight note is a short, clear whistle, and a flock composed of separately undulating individuals affords a pleasing sensation to both eye and ear as it rapidly passes. The male is said to have a sprighty whistling song of a most agreeable character, and he sometimes opens the season as early as February.

Specimens kept in captivity exhibit some of the traits of parrots. Thus, they grasp the wires of the cage with their bill as well as with their feet and move about by its aid. They hang head downward with indifference and they convey food to the mouth by holding it in one foot. It is not surprising that the birds are easily domesticated even when full grown, since they are so unsuspicious as to admit of capture by the hand. I once caught an adult female in mid-air as a flock fluttered up confusedly from the ground. According to Dr. Brewer, a nest with eggs of this species was once secured in March by Mr. Charles S. Paine, in East Randolph, Vt. "The nest was built in an upper branch of an elm—which, of course, was leafless—the ground was covered with snow, and the weather severe. The birds were very tame and fearless, refusing to leave their eggs, and had to be several times taken off by the hand. After its nest had been taken, and as Mr. Paine was descending with it in his hand, the female again resumed her place upon it, to protect her eggs from the biting frost."

From "Birds of Ohio," by permission.

The Myrtle Warbler (*Dendrocia coronata*)

By Henry W. Henshaw

Length, 5½ inches. The similarly colored Audubon's warbler has a yellow throat instead of a white one.

Range, breeds throughout most of the forested area of Canada and south to Minnesota, Michigan, New York and Massachusetts; winters in the southern two-thirds of the United States and south to Panama.

Habits and economic status: This member of our beautiful wood warbler family, a family peculiar to America, has the characteristic voice, coloration, and habits of its kind. Trim of form and graceful of motion, when seeking food it combines the methods of the wrens, creepers, and flycatchers. It breeds only in the northern parts of the eastern United States, but in migration it occurs in every patch of woodland and is so numerous that it is familiar to every observer. Its place is taken in the West by Audubon's warbler. More than three-fourths of the food of the myrtle warbler consists of insects, practically all of them harmful. It is made up of small beetles, including some weevils, with many ants and wasps. This bird is so small and nimble that it successfully attacks insects too minute to be prey for larger birds. Scales and plant lice form a very considerable part of its diet. Flies are the largest item of food; in fact only a few flycatchers and swallows eat as many flies as this bird. The vegetable food (22 per cent) is made up of fruit and the seeds of poison oak or ivy also the seeds of pine and of the bayberry.

When the vanguard of the warbler host arrives in later April, the bird man knows it is time to overhaul the daily schedule, to decline with thanks all evening engagements, and to hie him forth in the gray of the morning to welcome his winged friends. The wind is still asleep, the dew is full-bodied and lusty, and sounds of traffic have not yet begun to burden the air. It is at such a time the birds confess their inmost secrets of love and longing, and sing purest praises to the great All-Father. As the signals of dawn are hoisted the chorus swells and the rising sun is greeted with a burst of vocal splendor. Upon his appearance the winged voyageurs of the night descend and mingle their lispings and trillings with the full tide of song.

The myrtles are usually the first of the warblers to arrive in the spring, as they are the last to depart in the fall. For a week they are abundant, and their sturdy chip becomes easily familiar of warbler notes. Other enterprising warblers not a few accept their promise of safe conduct, but one scrutinizes a dozen of the myrtles to find one of another species. During the first ten days of May the order of abundance is reversed, and the last dilatory matron has disappeared or every lazy black-poll comes.

Myrtle is a handsome fellow, but he is too sensible to put on airs. Trees, bushes or fence rails are alike to him, and he is not above alighting on the ground to secure a fat grub. Now and then a pleasant song is heard, a dainty,

259

MYRTLE WARBLER.
Male.

silvery warble, rather light, and, one suspects, since the singer is so far from home, not full-voiced yet.

The autumnal movement is less hurried than that of spring. At this season the birds often gather in flocks of forty or more, and linger for weeks in sunny, half-wooded pastures, or about the orchards. Here they spend much time in the tall weeds, after the fashion of goldfinches, hunting for insects, indeed, but in lieu of them often accepting seeds. Thus they will occasionally tarry late into November and do not fear the exposure resulting from the falling leaves, since a yellow rump-spot is all that is left them of the garish beauties of spring.

Yellow-rumped warblers are reported as wintering commonly in southern Indiana, but Rev. W. F. Henninger did not find them in the lower Scioto valley. Dr. Langdon of Cincinnati has records for March 4 and November 29, and it is not improbable that they winter sparingly in the more sheltered spots of the Ohio river counties. They are reported as abundant at that season in Florida, where they subsist on the berries of the myrtle (myrica cerifera) whence the name.

Little Brother Chickadee

By William Hale

Little brother of the wood,
Ermine-cloaked, with sable hood,
Bravest of brave brothers, thou,
Calling to me softly now
From the icy hemlock tree,
Cheery, chirping chickadee:
"Never fear!
Spring is here.
And the blithest of the year
For thee and me
Is yet to be,
For man and chickadee."

Fearless free-lance of the fields,
Though scant fare the bleak earth yields,
Thou art harbinger of spring,
And each sweet and beautifying thing.
So, wee herald, sing away;
Blessings on thy cheery lay:
"Never fear!
Love is here,
And the blithest of the year
For thee and me
Is yet to be
For man and chickadee."

The Bluebird (*Sialia sialis*).

By I. N. Mitchell

Length seven inches; sexes much alike, female duller; nest in hollow stumps, trees, posts and in bird-boxes; eggs, four to six; note a short but very pleasing contralto warble.

Range: Breeds in the United States (west to Arizona, Colorado, Wyoming, and Montana), southern Canada, Mexico and Guatemala; winters in the southern half of the eastern United States and south to Guatemala.

Habits and economic status: The bluebird is one of the most familiar tenants of the farm and dooryard. Everywhere it is hailed as the harbinger of spring, and wherever it chooses to reside it is sure of a warm welcome. This bird, like the robin, phoebe, house wren, and some swallows, is very domestic in its habits. Its favorite nesting sites are crannies in the farm buildings or boxes made for its use or natural cavities in old apple trees. For rent the bird pays amply by destroying insects, and it takes no toll from the farm crop. The bluebird's diet consists of 68 per cent of insects to 32 per cent of vegetable matter. The largest items of insect food are grasshoppers first and beetles next, while caterpillars stand third. All of these are harmful except a few of the beetles. The vegetable food consists chiefly of fruit pulp, only an insignificant portion of which is of cultivated varieties. Among wild fruits elderberries are the favorite. From the above it will be seen that the bluebird does no essential harm, but on the contrary eats many harmful and annoying insects.

To think of the bluebird is to think of spring. The long weeks of winter have had their rugged pleasures. The bird lover may have taken snow-shoe tramps afield to search for traces of the quail and grouse, to share a meal with the friendly chickadee, to watch the woodpeckers or tree sparrows, or to discover some occasional resident as the robin or red-winged blackbird, shrike or crossbill; but in the main, the fields have been deserted and the wild life, like the woods, has seemed wrapped in a long, restful sleep. We begin to long for the ringing up of the white curtain and the lowering of the green one. How glad we are when the warble of the blue-bird, the cackle of the robin, and the joyous whistle of the meadow-lark give us warning that the change of curtains is about to be made.

The bluebird ventures back about the first week in March. His back never looks so blue as when in contrast with the March and April snow. It is in harmony with the sky from the first, but his breast must help to melt away the lingering snow before it can be in keeping with the rich, brown earth.

Returning together, the bluebird and his mate soon set about looking over available nesting places. The English sparrow is, at this time, their only competitor, but a severe competitor he is. As cold weather approached in the fall, he appropriated for winter quarters every bird-box into which he could squeeze;

21

BLUEBIRD.
Life-size.

more than that, he began carrying in new nesting materials on any mild, sunny day in February. Now he feels that the box is his both by right of discovery and possession and possession is nine points of the law with birds as with higher animals. Unless some one comes to the aid of the bluebirds, they must leave their last year's home in the hands of the enemy—"The little beast," as Mr. Van Dyke calls the English sparrow, and go off to the woods in search of a hollow tree or stump. This seizing of nesting places is the chief way in which the beast drives our native birds from the city into the country and from the country home to the woods and fences. If then, we wish to keep the bluebird, tree swallow and martins about our homes in city and country we must work out some plan for beating the beast. To that end it is well to take down the bird boxes in November and to put them up again in the spring, for the bluebird, the fifth or sixth of March, for the tree-swallow, the fifth or sixth of April; for the purple martins, the first of May.

There will be a fight for the boxes just the same, but the chances of war will be more evenly balanced. The native birds may be aided further if the doorway of the birdhouse is guarded by a little door so arranged that it may be pulled aside from the ground by a string.

There never was a happier or more devoted husband than the male bluebird. He is the gay champion and escort of the female at all times, and while she is sitting he feeds her regularly. It is very pretty to watch them building their nest. The male is very active in hunting out a place and exploring the boxes and cavities, but seems to have no choice in the matter and is anxious only to please and encourage his mate, who has the practical turn and knows what will do and what will not. After she has suited herself he applauds her immensely, and away the two go in quest of material for the nest, the male acting as guard and flying above and in advance of the female. She brings all the material and does all the work of building, he looking on and encouraging her with gesture and song. He acts also as inspector of her work, but I fear is a very partial one. She enters the nest with her bit of dry grass or straw, and, having adjusted it to her notion, withdraws and waits near by until he goes in and looks it over. On coming out he exclaims, very plainly, "Excellent! excellent!" and away the two go again for more material.

Some Odd Bits of Bird Life

By Edward B. Clark

Somewhere in the woods west of Highland Park, Illinois, there lives a crow that bears on his back a pure white mark of the size and shape of a silver dollar. "Jim," for so I've named him, seems to know that he is distinguished above other birds and as a result he is much shyer than his brother crows. I have satisfied myself that certain of the bird's characteristics are directly traceable to the big

white spot on his back as the first cause. Jim has learned now that if he wishes any comfort in life he must flock by himself. There is no doubt in the minds of his fellow crows that white-spotted Jim is a freak. They keep him always at the distance of a big field's width, and any attempt on his part to approach nearer is met by assault.

The first time that I saw my friend Jim he was rounding the edge of a belt of timber and making for a plowed field in which four other crows were feeding. From their position they could by no chance have seen his back, and yet they seemed to know that the approaching bird was branded and a pariah. The feeding crows rose as one bird, met Jim half-way, and chased and buffeted him back into the woods. It was in this hurried retreat that Jim's white spot showed prominently and told better than words the story of his persecution. Is it not possible that the crows felt that their brother's marked peculiarity would attract undue attention to them in case he were admitted to comradeship?

I met Jim during two seasons when the other crows were paired and keeping house. He was unquestionably leading a bachelor existence. Twice I saw other crows go out of their way to attack him, but despite his unhappy and lonely lot he clings tenaciously to life and only recently I have seen him foraging for food in the northern Illinois cornfields.

There is no love in my heart for the English sparrow. I have seen his persecution of our native birds until I cannot summon up a particle of sympathy for him, no matter into what straits he may come. I confess to a secret rejoicing every time a predatory shrike strikes a sparrow and trusses him for breakfast. The Britisher has a busy time all winter dodging the butcher-bird, and even after the enemy has gone to its northern home the sparrow trembles at passing shadows. I was idly watching a flock of sparrows one summer day feeding at the edge of the Lake Shore Drive in Chicago. Suddenly every individual in the flock crouched close to the ground, and then all rose like a feathered entity and made for shelter. No sparrow nor gathering of sparrows ever made a quicker movement that did that flock. The journey from the ground to the thickness of an evergreen tree standing in the grounds of a private residence, was made in arrow flight time. It is probable that no feathered gathering ever had a better apparent reason for adjourning than did that bunch of city sparrows. Coincident with the sight of their scurrying there fell upon my ear a dismal cry from above. It was a half croak, half file rasp, a sort of disaster-foreboding wail. Then a shadow swept over the ground, and a look upward showed me a big red and gray parrot making a lumbering flight in full and awful cry from the back piazza of a third-story flat. The sparrows probably have family traditions of all sorts of feathered horrors. It is doubtful, however, if a search of the archives of their remote ancestors would show anything descriptive of more terror of voice, beak, and plumage than that which had just broken on their sight and hearing. Small wonder is it that the sparrows took to the woods. The parrot lighted in a tree

which towered above that in which the sparrows had taken refuge. The bird's intention of perching in this tree was no sooner expressed by the direction of its flight than the sparrow horde left one hiding-place and fled to another.

English sparrows, like all other birds, are inquisitive, and when they saw that this bird nightmare, which strangely had chosen a bright day to be abroad, showed no signs of hostility they gathered about it by the hundreds. They hurled all sorts of names at the parrot. Never before had I realized the extent of the sparrow vocabulary. The parrot made its awkward way from tree to tree, followed by all the sparrows resident in that section of the city. The feathered street gamins gave over eating and the delights of fighting for the pure pleasure of swearing at this interrupter of their breakfast. Poll contented herself with croaking at the assembled throng, and with occasionally asking an individual sparrow for a cracker. The sparrows were gaining courage, and apparently were contemplating an attack in force when a boy who knew how to climb trees captured Poll and carried her back to her cage.

Some birds have become accustomed to many of the appurtenances of civilization. Those that have been shot at once, or have seen their kind shot at, know a gun as far as they can see it. They will all but perch on the shoulder of an unarmed man, but will keep a ten-acre lot between them and a man with a breech-loader. Glass, however, is one of man's belongings which the most astute bird as yet fails thoroughly to understand. A window which has light back of it as well as in front of it is a perfect death trap for birds of many species. The oven-bird, sometimes called the golden-crowned thrush, is constantly dashing against window panes, always to its discomfiture and frequently to its death. One of these birds at noon one day brought up against a pane of glass in the window of a great department store on one of the busiest street corners of the city of Chicago. The bird recovered itself, but in its bewilderment it left the window only to fly into the crowded mart through an open door. The oven-bird was caught and caged. Then it promptly and properly died. All caged birds ought to die in self-defense. The Audubon Society members say that death for the songsters is preferable to imprisonment. There are few bird lovers who will try to gainsay the society's dictum.

Not long ago a kingfisher tried to fly into the Academy of Sciences through a pane of plate glass. The shock killed the bird. It now stands stuffed with cotton and plaster of paris looking out of the very window against which it hurled itself to death.

I once found the body of a small hawk which had met death in a peculiar way. I doubt if a stranger fate ever overtook any living creature. I found the bird hanging by the upper tendons of its left wing to a barb on the strand of a wire fence. Unquestionably the hawk was pursuing its quarry when it struck the fence with terrific force. The barb entered the skin and tendons of the wing and held the bird fast. Such was the impetus acquired from the force of the

flight that the bird's body swung around the wire strand two or three times, a fact shown by the twisted condition of the tendons. The hawk was dead when discovered, but whether the shock of the impact killed it or whether it died as the result of the fierce struggle to free itself cannot be told. There was no wound save that of the broken wing and torn skin and tendons, a circumstance that shows that the bird was not shot and afterward impaled upon the wire. Doubtless some meadow mouse is still congratulating itself on the narrowest escape of its life, and on the death of one of its implacable enemies.

Recently the undoubtedly wise and humane members of the Illinois legislature granted the right hitherto denied, to shoot during certain months of the year the mourning-dove, the emblem of peace and of all gentleness. I am charitable enough to doubt if any member of the state body would have voted for such a provision of the game law if he could have seen the exhibition of courage and devotion to duty by a dove that once came under my notice. A pair of the birds had built a nest about four feet from the ground in a little evergreen tree on a side hill. The nesting site was in the outskirts of one of Chicago's suburbs. The month of the nest building, April, had been unusually dry; the fallen oak leaves and the grass where the tender green had not yet sprung were as dry as chips. A fire, started by a spark from a passing engine, spread rapidly and ran along the hillside toward the dove's nest. I knew the location of the bird's home and I watched the mother dove all through the subsequent ordeal. The flames reached the tree upon which the frail nest was placed, and though the fire mounted high enough for the dove to feel the intensity of the heat, she lifted not a wing to leave her charge. The flames swept under her and passed on, but for fully five minutes thereafter the devoted mother was shrouded in smoke. The bird's courage was of little avail, however, for some creature, man or beast, robbed the nest the day after the fire.

The jay is unquestionably a good deal of a rascal, but he is one of the most interesting creatures that fly. I confess to a liking for him though he does steal eggs once in a while and is the common scold of every bird neighborhood. I watched a pair of jays once while they built their nest in a small fir tree in the dooryard of a hotel at Highland Park. The birds built the bulkiest jay's nest I had ever seen. When the structure was about two-thirds completed I heard a loud jay conversation in the lane back of the hotel and I looked over the fence to discover the cause. The two jays were on an ash pile, and were having an animated discussion about a very dirty paper collar which lay between them. It was apparent that one of the birds doubted the utility of the collar as nest-making material, while the other was an advocate of trying it if for no other reason than that it was something new. Womanlike, Madame Jay finally had her way (I suppose it was the madame), and into the wall of the nest the paper collar went. When the home was completed six eggs were deposited, one more than I had ever before found in a jay's nest. Mother jay staid on the nest con-

tinuously for fourteen days with the exception of a few short trips for daily bread. On the fourteenth day the young jays ought to have been poking their heads through the shells. They didn't poke. Mrs. Bluejay kept on sitting. Eighteen days had passed and then the husband began to plead with his mate in the few soft notes which he could command. He asked her to leave the nest, but she paid no heed. Three weeks were up. Young jays that occupied a nest whose foundation had been laid many days later than that of the fir tree home, were feathering out and clamoring for food. This fact was duly called to the attention of Mrs. Jay by her husband. She wouldn't budge an inch. He made many trips to and from a laden cherry tree, carrying his spouse specimens of the finest fruit and telling her there were thousands more like them on the tree. There was found one female who was proof against the fruit temptation. Five days more passed, and the devoted sitting bird looked tired and seedy. Her husband, who throughout the ordeal had confined himself solely to mellifluous pleadings, now got mad. He flew to a perch a foot above his sitting mate, cocked his head on one side, looked down at her, and with marked emphasis and significance uttered the one word, "Jay." Sarcasm won and madame left her nest and six eggs for good and aye. After the desertion of the nest I took it down and broke the eggs. They were dried up and showed no signs that incubation had advanced beyond a day or two.

One or two of my experiences makes me bold to say that I believe the birds are much hardier creatures than generally is supposed. It is something of a journey from our middle western fields to the rocky little spot known as David's Island, in Long Island Sound. Let us make the journey if only for the sake of a story of the hardihood of a song sparrow. I spent the winter of the year 1888 at David's Island which was then a United States military station. The first week in March a song sparrow arrived on the island and made his headquarters near a woodpile at the government dock. The bird sang daily from the top of an upright pole which marked one of the divisions of the woodpile into cords. At the end of the second week there came that awful blizzard which buried buildings in snow, rooted trees out of the earth, and cost many human lives. The storm was the worst in the history of the land and it raged unremittingly for two days. Then there came a lull; the sun shone on a buried country; the wooden barracks of the army recruits in places were hidden from sight. So terrific had been the storm that strong men sentinels had been overcome at their posts. On the morning of the clearing of the skies the soldiers of the garrison attacked the snow-drifts and broke a road to the woodpile where three days before the sparrow sang. When the last great white mass was overcome the attacking party was greeted by as cheerful a note as ever fell on soldiers' ears. The minstrel was the song sparrow with his melody still unfrozen in his throat and with a spirit that the storm could not conquer.

It would be edifying to a degree, doubtless, if we could put ourselves in

touch with the thoughts of birds. I would give much to know just what it was that prompted a red-headed woodpecker to a certain line of conduct on one occasion. I concluded he was moved by a spirit of pure mischief and nothing else, but possibly he had some graver reason in his head. I saw a brilliant Baltimore oriole sunning himself on a limb and holding in his bill a piece of newspaper as large as himself. I never knew on oriole to use newspaper for nesting material, and although it was homesteading time I did not think that the bird seriously contemplated playing the vireo and using wall paper in his residence. There was a red-headed woodpecker on the trunk of the tree. He seemed to take something more than passing interest in the oriole and his bit of paper. Perhaps his thought was, "There's a foolish bird laboring with something that it has no possible use for." Whatever the thought, the red-head presently darted out, snatched the bit of paper from the oriole, and flew far across the field with it to another tree. There he dropped the paper to the ground and began a search for grubs in the bark. The woodpecker had no more use for the paper than did the oriole. Perhaps its purloining of the paper was prompted simply by a bad temper. It has often been intimated that infirmities of temper are not infrequently the accompaniments of red heads.

The Bronzed Grackle (*Quiscalus quiscula aeneus*).

By W. Leon Dawson

Length, 13 inches; lustrous black.

Range, from Allegheny mountains to Rocky Mountains and north from southern New England to Newfoundland and Great Slave Lake.

Aesop tells of a crow which, appropriating some cast-off feathers of a peacock, succeeded in cutting quite a swath among his plain-hued friends, until a clever rival disclosed the sham and brought him into deserved contempt. The crow blackbird has improved upon the trick. Without trying to parade feathers manifestly too big for him, he has borrowed the peacock's sheen, and he struts about, in a manner accommodated to his surroundings, with all the peacock's pride. He is a handsome fellow. See him as in the full sunlight he submits a wing to the critical gaze of his coveted Juliet! Burnished brass, brass over steel, resplendent as a coat of mail! She approves, although she will not say so. But, lo! how insolent he is! She likes that too and snickers softly as he shouts down to you, "Jup, jup. What are you doing here in my orchard?" If one is taken unawares he is apt to stammer out, "Why, why, I thought it was my orchard until you spoke."

For all he is so vain, no one ever accused the grackle of being graceful. He is capable of bold, vigorous flight, but in the spring he chooses to exhibit the dimensions of his rudder-like tail, and sometimes he lets it swing him around in a small circle as though it were a weight from which he was struggling to get

BRONZED GRACKLE.
$\frac{3}{8}$ Life-*size*.

free! His love making antics, too, are all the more ridiculous for being earnest. Perched upon the tip-top of an evergreen tree, he thrusts his wings out, spreads his tail, ruffles his feathers, and then throws his head forward like a person about to obtain relief from seasickness. The outcome of all this effort is a sound by no means ravishing, flee-e-k-starr, or simply five-e-e-t. When the female has been sufficiently impressed by the accomplishments of this vocal contortionist the pair converse in jups of much modified insolence, and in a series of prolonged squeaks of unquestionable affection.

The tops of evergreen trees have long been favorite nesting places for the bronzed grackle, but, in the comparative scarcity of these, apple trees are second choice. While not strictly gregarious during nesting season, the birds often occupy neighboring trees, and a good sized orchard may contain twenty or thirty nests. They are placed without much regard to concealment, at first, since the nesting is often under way by the 20th of April, but the advancing season is more lavish of its foliage. The nest is quite a bulky affair of dried weed stalks and grasses, with a deep cupshaped matrix of mud and a bountiful lining of grasses and horsehair. As to manner of attachment it combines all known characters, being saddled and settled, as well as anchored by the edge or half swung. The eggs are quaintly spotted and stained or scrawled with umber and purplish black on a dull green or vitreous blue ground.

During the nesting season the crow blackbird betrays affinity with the crows and jays by helping itself occasionally to the eggs and young of other birds. Although the fault is a grave one, a special investigator does not find that such food bears any sensible proportion to the total amount and concludes that the offense is too infrequent to require discipline at our hands. More serious from any economic standpoint is the charge that these birds consume quantities of grain, especially corn. Although the mischief is offset by the consumption of an equal amount of insects, and those largely of injurious sorts, it becomes at times unquestionably necessary for the farmer to discourage the depredations of this bird when the corn is in the milk.

Before the breeding season is over the male begins to gather in some favorite "roost" to spend the night, and these companies form the nucleus of large flocks, which are augmented by the arrival of females and young as rapidly as the latter are sufficiently matured. One of these "roosts" comes to include the grackle population for miles around, and often numbers thousands. If quarters are taken up in a village grove or city park, as is not infrequently the case, the noisy congregation affords occasion for comments and conjecture on the part of hundreds of citizens.

From "Birds of Ohio," by permission.

The Fox Sparrow (*Passerella Iliaca*)

By Charles W. Richard

Common migrant; sexes, alike; length, 7¼ inches; nest, on or near the ground; song, a short, sweet, warbling melody; arrives about the 21st of March.

The fox sparrow is one of our commonest migrants. Soon after the cheer up of the robin and the fluting of the bluebird proclaim the promise of the spring, you may chance to see a commotion among the old dry leaves under the bushes. A reddish-brown bird is very vigorously hunting his dinner.

The commotion among the leaves suggests a scratching hen, but beyond the disturbance of the leaves, the comparison fails. Our fox sparrow is only about half as large as a robin. The wings and tail are a bright red-brown, and the throat, sides, and breast are white dashed generously with the same red-brown. His movements are quick, nervous, alert. He scratches with both feet at once, throwing them back so violently that the litter goes scurrying and uncovers many a sprouting seed and lurking insect or worm.

The illustration gives an excellent idea of the coloring of this sparrow.

If it were a front view, it would show the dashes massed in three regions: on each side of the throat—the left one shows nicely—and in the middle of the breast as in the song sparrow. But in the song sparrow they are a brownish black.

More bird students will confuse the hermit thrush with our fox sparrow. He, too, is red-brown, though not so bright, and his dashes are not so positive nor so red. Remember, too, that the hermit has become conscious of his tail and moves it up and down as any one may see in a minute's observation, while to the fox sparrow, that worthy member is just a common rudder.

Every spring has its surprises. Frequently a new or rare bird, sometimes an unusual display of color, sometimes a momentary glimpse into the inner life of a bird. It may be a chorus of song or some surpassing solo.

It may be set down as a maxim for the encouragement of the faithful that all birds which should sing at all do sing sometimes during migrations. There is the fox sparrow, a bird of most engaging appearance, nearly as large as a thrush and quite as fine. We feel sure that he is concealing a rare gift of song under that rusty cloak of reserve. As for him his one ambition seems to be to slip away unobserved, unless indeed it be to steal a sly glance at you from behind some tree hole. His only note as he speeds with strong wing into cover is a thrasher-like chuck of alarm. Year after year, it may be, one comes upon shy companies of these handsome fellows in brush-strewn woods or in the undergrowth of river bottoms, but never a song do they vouchsafe.

Finally on some favored day—there is not a breath to tell you of the good fortune in store—a clear, strong, exultant song bursts upon your ears from some

FOX SPARROW.
(Passerella iliaca Merr.)
½ Life size.

half-distant copse. Chee-hoo, ker-weeoo, weeoo, weeoo. The fox sparrow has found his voice.

There is a sweetness and vivacity about the song which wins our admiration at once. It speaks so eloquently of anticipated joy, that we must envy the bird his summer glade in wild Keewatin. Our vesper sparrow whistles a somewhat similar tune, but he is all contentment, realization now, and at half that cost. Professor T. C. Smith, who has been exceptionally favored at Columbus, says in this connection: "The voice of the fox sparrow in its full power is clear, sustained, and rendered rich by overtones. It has not, of course, the metallic ring of the thrushes or the bobolink, it is rather the sparrow or finch voice at its best, a whistle full of sweetness with continual accompanying changes of timbre.

"Unlike most of the sparrows the fox sparrow displays an ability to let his notes drop into one another by a quick flexible slide, usually accompanied by a slight change in timbre, which is the characteristic of the warbling birds such as the vireos. In this respect he surpasses all of his race that I have ever heard except the rose-breasted grosbeak and the cardinal."

More frequently the fox sparrows are heard singing—sometimes in chorus—in a subdued tone or half-voice. The effect at such a time is very pleasing, but one does not get any adequate impression of the bird's powers of modulation or sweetness.

Cooper's Hawk (*Accipiter cooperi*)

Length, about 15 inches. Medium sized, with long tail and short wings, and without the white patch on rump which is characteristic of the marsh hawk.

Range: Breeds throughout most of the United States and southern Canada; winters from the United States to Costa Rica.

Habits and economic status: The Cooper's hawk, or "blue darter," as it is familiarly known throughout the South, is preëminently a poultry and bird-eating species, and its destructiveness in this direction is surpassed only by that of its larger congener, the goshawk, which occasionally in autumn and winter enters the United States from the North in great numbers. The almost universal prejudice against birds of prey is largely due to the activities of these two birds, assisted by a third, the sharp-shinned hawk, which in habits and appearance might well pass for a small Cooper's hawk. These birds usually approach under cover and drop upon unsuspecting victims, making great inroads upon poultry yards and game coverts favorably situated for this style of hunting. Out of 123 stomachs examined, 38 contained the remains of poultry and game birds, 66 the remains of other birds, and 12 the remains of mammals. Twenty-eight species of wild birds were identified in the above-mentioned material. This destructive hawk, together with its two near relatives, should be destroyed by every possible means.

The Ruffed Grouse (*Bonasa umbellus*).

By Herman C. De Groat

Length, 17 inches. The broad black band near tip of tail distinguishes this from other grouse.

Range, eastern United States and southern Canada, south to Georgia, Mississippi and Arkansas.

Habits and economic status: The ruffed grouse, the famed drummer and finest game bird of the northern woods, is usually wild and wary and under seasonable protection well withstands the attacks of hunters. Moreover, when reduced in numbers, it responds to protection in a gratifying manner and has proved to be well adapted to propagation under artificial conditions. Wild fruits, mast, and browse make up the bulk of the vegetable food of this species. It is very fond of hazelnuts, beechnuts, chestnuts, and acorns, and it eats practically all kinds of wild berries and other fruits. Nearly 60 kinds of fruits have been identified from the stomach contents examined. Various weed seeds also are consumed. Slightly more than 10 per cent of the food consists of insects, about half being beetles. The most important pests devoured are the potato beetle, cloverroot weevil, the pale-striped flea beetle, grapevine leaf-beetle, May beetle, grasshoppers, cotton worms, army worms, cutworms, the red-humped apple worm, and sawfly larvae. While the economic record of the ruffed grouse is fairly commendable, it does not call for more stringent protection than is necessary to maintain the species in reasonable numbers.

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

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

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

The drumming of the male is a striking trait of this bird. Early in the morning or late in the afternoon, he will perch on an old log or rock in the woods and beat a resounding tattoo with his wings. This done by striking his sides with his wings, producing a noise like a roll of distant thunder. On a quiet day this sound may be heard a half mile. He does this to call his mate and soon the female comes flying through the woods to meet him.

59

RUFFED GROUSE.
(Bonasa umbellus).
⅞ Life-size.

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

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

The New Bird (Bill) Law

By Alvin W. Mumford

One of the last measures signed by ex-President Taft was the bird bill regulating the shooting of migratory birds and extending the closed season for insectivorous birds to one year in most of the states. These new regulations were approved by President Wilson October 1, 1913, the beginning of the annual hunting season, and became a law, going into effect at once.

Much is due the agricultural schools for this measure. At last the birds are decorated with a law that means something. In some states this new law will not materially affect the hunting privileges, because it will not make any greater restrictions than are imposed by the state laws already in existence. In others the change will be more keenly felt. The five years' closed season for certain game birds, the prohibition of shooting between sunset and sunrise, and the long closed season for birds along certain navigable rivers are the most important features of the new regulations.

The Department of Agriculture was authorized to formulate regulations covering the points needed for the Federal protection of migratory birds. These regulations fixed and prescribed the closed seasons with due regard to temperature, breeding habits and the times and lines of migration of the different classes of birds. A committee of experts upon the subjects involved prepared these regulations. The knowledge possessed by the committee upon the habits of birds enabled them to fix suitable districts in different parts of the country in which it shall be unlawful to shoot, kill or capture migratory birds, and at the same time to give the hunter all the sport possible without threatening the total extinction of the birds. Where the states have suitable laws for protection of the migratory

birds nothing in the new regulations shall be permitted to conflict with them. The approval with which these regulations have been received as a whole has been most gratifying to the committee. It demonstrates thoroughly that public sentiment has become aroused to the need of protection to native birds.

The provision that the new law should not interfere with the bird laws already existing in the states required much work from the committee formulating the regulations. Over 700 laws regarding bird shooting are in existence in the forty-eight states. In order to harmonize them a number of exceptions have been included with the regulations which will make the new law a harmonious scheme for conserving the bird life uniformly throughout the country.

The country is divided into two zones. Zone 1 is to be known as the breeding zone. It includes twenty-five states, lying chiefly north of the Ohio River and latitude 40 degrees. The closed season for this zone shall be from December 16 to September 1 for water fowls and rails, with exceptions in nine states, where the dates vary slightly. For woodcock the closed season extends to October 1, with exceptions in ten states. The closed season for shore birds, excepting for those coming under the regulation of the five years' closed season, extends from December 16 to September 1, with slight modifications of these dates in ten states.

Zone 2 is to be known as the wintering zone. It includes all the states south of the breeding zone. In this, the closed season for water fowl extends from January 16 to October 1, excepting in Maryland, Virginia and the Carolinas, where it is from February to November, and in Kansas, Oklahoma, New Mexico and Arizona, where it comes between December 16 and September 1. The closed season for rails, and also for coots and gallinules, comes between December 1 and September 17, with slight differences in Tennessee, Louisiana and Arizona. For woodcock the closed season extends from January 1 to November 1, excepting in Louisiana and Georgia. The closed season for shore birds, including only black breasted and golden plover, jack snipe or Wilson snipe and yellow legs, the rest coming under the five years' regulation, is from December 16 to September 1, with the exceptions in Alabama, Louisiana, Tennessee, Arizona and Utah.

The new law prohibits the shooting of all migratory game birds between sunset and sunrise. This restriction has been objected to in New England and in some of the western states, but the objection is not sustained because this protection already exists in a number of states, including New York, Ohio, Indiana, Illinois, Iowa, Arkansas and Missouri. At least half of the hunters in the country have been subject to this restriction for years by the laws of their states and most of them indorse it as a proper measure. Louisiana has even gone a step farther. The shooting of birds after the noon hour is prohibited there, thus giving them an additional advantage.

The closed season for insectivorous birds now extends throughout the year, excepting for reed birds and rice birds in Delaware, Maryland, Virginia, the

District of Columbia and South Carolina. In these states they may still be shot between August 31 and November 1. Many bird lovers object even to this small killing, for these insectivorous birds may almost be classed as song birds. The reed birds are really the northern bobolinks which have been greatly decreased by the greed of the hunters.

It has been claimed that the rice birds of the South interfered with the crops, but a scientific examination proves that they feed largely upon insects which damage the grain. The substitution of the much hated English sparrow for the reed bird in many restaurants is now admitted. Many claim that the difference is not easily detected. At present no consideration is being given to sparrow conservation, and in the minds of most people they can be spared with less loss to the country than the bobolink. The migratory insectivorous birds covered by the regulation include bobolinks, catbirds, chickadees, cuckoos, grosbeaks, humming birds, martins, meadow larks, night hawks, orioles, robins, shrikes, swallows, tanagers, titmice, thrushes, warblers, whippoorwills, woodpeckers, wrens, and all other perching birds which feed entirely upon insects.

A five-year closed season has been authorized, extending until September of 1918, covering band tailed pigeons, swans, curlews and three varieties of cranes. The enormous decrease in these birds threatens their total extinction, so that a long closed season is considered absolutely essential to the continuation of the species. A closed season shall extend also from January 1 to November 1 for all migratory birds passing over or at rest upon any of the following navigable rivers between certain designated points. These are the Mississippi from New Orleans to Minneapolis, the Ohio between its mouth and Pittsburgh, and the Missouri between its mouth and Bismarck, N. D. The prohibition of the killing of birds along these waters, either from the shore or from boats, will no doubt be keenly felt by many hunters. Yet it was considered necessary that the birds should have a safe pathway to and from the Gulf of Mexico.

Aside from the aesthetic value of birds, their destruction by the wholesale methods which have been in operation has meant a great financial loss to the nation. All parts of the country have suffered from insect pests which did not exist until the slaughter of the birds had lessened their protection. John Davey, the pioneer tree surgeon, claims that millions of dollars are lost annually from the destruction of trees by insects because of the scarcity of song birds. Where there are plenty of song birds, no trees are seriously disturbed by insects.

Scientists claim that the unrestricted natural increase of the gypsy moth would defoliate the entire United States in less than eight years. Birds can do more than any human device to overcome this pest. A scarlet tanager has been seen to eat thirty-five gypsy moths a minute for eighteen minutes. Other birds are equally rapacious. The spread of the gypsy moth in New England is directly due to the decrease of the song birds. The destruction of blackbirds, prairie chickens and other birds in the middle west is held responsible for the ravages of the Rocky Mountain locust.

Birds and Their Songs

By Elizabeth and Joseph Grinnell

Some barbarous peoples possess a rude taste for the beautiful plumage of birds, decorating their bodies in feathers of softest and brightest tints. But we have record of few, if any, savage tribes the world over which delight in bird melody. True, the savage may seek his food by sound, or even song, but to feast the ear on music for music's sake—ah, this is reserved for culture.

An ear cultivated to melody is one of the soul's luxuries. Attuned to sweet and varied sound, it may become the guide to bird secrets never imparted to the eye.

Sitting in the close shrubbery of a home garden, or crouching moveless in a forest, one may catch whispers of bird language never imparted to human ears when the listener is moving about or talking with a comrade.

If one has accidentally or by patience discovered the evening resort of shy birds, let him precede the birds by half an hour. Sitting low among rocks or fallen trees, having the forethought to wear plainly colored clothes, and as moveless as the neighboring objects, one may be treated to such a feast of sounds as will both surprise and entertain him. The birds will come close, and even hop over one's coat sleeves and shoes, though so much as a full-fledged wink may dissipate the charm.

Just before bedtime there are whisperings, and salutes, and low-voiced conversations, and love notes, and "O's" and "Ah's" at sight of a belated insect, and lullaby ditties, and if one be possessed of a good deal of imagination, "evening prayers."

Birds that fly from their night-time perches in the thick shrubbery in the morning dusk with a whirr, and a scream, or emphatic call-note, in evening time just whisper or sing in half-articulate tones.

To be out in their haunts late in the day and very early in the dawn is to learn things about birds one never forgets. And if one chance to remain late at night, one may often hear some feathered person mumble, or talk, or scold, or complain, or sing a short melody in his sleep. Some students of bird lore suggest that all-night singers, like the mockers, and some thrushes, do "talk in their sleep," instead of from intent and choice. If one will watch a tame canary in its cage one may hear a very low, sweet warble from the bird while its head is tucked under its feathers. This act wakens the little creature, and it may be seen to finish its note while it looks about in the lamplight in a half-bewildered way.

Take our domestic fowls! Go noiselessly out to the chicken roost and stand stock-still for a while. Now and then some hen or cock will speak a few words in its own language, in a rambling, dozing way. Then the suggestion passes on,

and perhaps half a dozen individuals engage in nocturnal conversation. One, more "nervous" from yesterday's overwork perhaps, actually has a nightmare and cackles in fright. All this has no connection with the usual time for the head of the family to give his warning crow that midnight or daytime is close at hand and there is scarcely time for another wink of sleep.

Once in the secret of bird notes, even a blind person may locate the immediate vicinity of a nest. And he may identify species by the call-notes and songs. We have a blind girl neighbor who declares she would rather have her hearing than her sight, she has learned so well to hear what her sight might deprive her of.

When once the ear has learned its better lessons, glimpses, so to speak, of bird life flutter to it as naturally as leaves flutter to the sward in autumn. It is the continual chatter, chatter, that deprives many of us of the best enjoyments of life. We talk when we should listen. Nature speaks low more often than she shouts. A taciturn child or person finds out things that are worth the habit of keeping still to know.

These remarks are in the interest of singing birds. A bird is sometimes interrupted and comes to a sudden stop. A footstep, a word, a laugh, and the very next note is swallowed by the singer. By studying our songsters one may come to know for one's self how individuals differ even among the same species.

There is the sad-voiced phœbe! Even she forgets her customary dismal cry at certain times when flies are winging their midday dance on invisible floors that never were waxed. It is when she takes a "flat stand" on the roof-corner and "bewails her lot" that her notes are utterly disconsolate. Take a couple of phœbes on a cloudy day, just after "one's folks have gone away from home on a long visit," and nothing lends an aid to sorrow like their melancholy notes. Really we do believe phœbe thinks he is singing. But he has mistaken his calling. Some of the goldfinches have a plaintive note, especially while nesting, which appeals to the gloomy side of the listener, if he chance to have such a side.

Were Coleridge listening to either of these, the phœbe or the goldfinch, he would doubtless say, in answer to the charge of sadness:

"A melancholy bird? Oh, idle thought!
In nature there is nothing melancholy."

And he would have us believe the birds are "merry" when they sing.

And so they shall be merry. Even the mourning dove shall make us glad. She does not intend to mourn; the appearance of sadness being only the cadence of her natural voice. She has not learned the art of modulation; though the bluebird and the robin and all the thrushes call her attention to the matter every year.

If one will closely watch a singer, unbeknown to him, when he is in the very act, one may note the varying expression of the body from the tip of his beak to the tip of his tail. Sometimes he will stand still with closely fitting plumage and whole attitude on tiptoe. Sometimes he will crouch, and lift the

plumage, and gyrate gracefully, or flutter, or soar off at random on quick wings.

Sometimes he sings flat on the breast like a song-sparrow, or again high up in the sky like the lark. However he sings, heaven bless the singer! "The earth would be a cheerless place were there no more of these."

But legend tells the story of singing birds in its own way—the story of a time long, long eons ago, when not a single bird made glad the heart of anything or anybody.

True, there were some large sea birds and great walking land birds, too deformed for any one to recognize as birds in these days, but there was no such thing as a singing bird.

One day there came a great spring freshet, the greatest freshet ever dreamed of, and all the land animals sought shelter in the trees and high mountains. But the water came up to the peaks and over the treetops, and sorrow was in all the world. Suddenly a giraffe, stretching its long neck in all directions, espied a big boat roofed over like a house. The giraffe made signs to the elephant, and the elephant gave the signal, as elephants to this day do give signals that are heard for many a mile, so they say! Then there came a scurrying for the big boat. A few of all the animals got on board, by hook or crook, and the rain was coming down in sheets. All at once along came the lizards, crawling up the sides of the boat and hunting for cracks and knot-holes to crawl into, just as lizards are in the habit of doing on the sly to this day. But not a crack or knot-hole could they find in the boat's side, for the loose places, wide enough for a lizard to flatten himself into, had all been filled up with gum, or something.

Then the lizards began to hiss, exactly the way they hiss to this day when they are frightened, and the big animals inside the boat poked out their noses to see what was to pay.

"Oh, they are nothing but lizards!" exclaimed the giraffe to the elephant, who had naturally taken possession of more than his share of the only foothold in existence. "Let them drown in the freshet."

But a big, awkward land bird, with teeth, and a tail like a church steeple, took pity on the lizards and gnawed a hole in the wall of the boat.

Of course, in trooped the lizards. Once in, they disposed themselves in nooks and corners, and right under the flapping ears of the telephant and between the pointed ears of the giraffe. And they began to whisper.

It was a very low, hissing whisper, as if they had never gotten farther than the s's in the alphabet, but the big animals understood.

Plenty of room was made for the lizards, and they were allowed to make a square meal now and then on the flies that had come in at the boat's door, uninvited, plenty of them.

After a few days the spring freshet came to an end, and the giraffe opened the door of the boathouse and looked out. He made signs to the elephant, and the elephant gave the signal, and out walked all the animals on "dry ground," which, to tell the truth, was rather muddy.

Birds in Orchards

By John Burroughs

There are few places on the farm where there is so much live natural history to be gathered as in the orchard. The trees bear a crop of birds, if not of apples, every season. Few are the winged visitors from distant climes that do not, sooner or later, tarry a bit in the orchard. Many birds, such as the robin, the chippy, the humming-bird, the cedar-bird, the goldfinch, and some of the flycatchers, nest there. The great-crested flycatcher loves the old hollow limbs, and the little red owl often lives in a cavity in the trunk. The jays visit the orchard on their piratical excursions in quest of bird's eggs, and now and then they discover the owl in his retreat and set up a great hue and cry over their discovery. On such occasions they will take turns in looking into the dim cavity and crying, "Thief, thief!" most vociferously, the culprit meanwhile, apparently, sitting wrapped in utter oblivion.

In May and June the cuckoo comes to the orchard for tent caterpillars, and the woodpeckers come at all seasons—the downy and the hairy to the good of the trees, the yellow-bellied often to their injury. The two former search for the eggs and the larvæ of the insects that infest the trees, as do the nuthatches and the chickadees, which come quite as regularly, but the yellow-bellied come for the life-blood of the trees themselves. He is popularly known as the "sap-sucker," and a sap-sucker he is. Many apple trees in every orchard are pock-marked by his bill, and occasionally a branch is evidently killed by his many and broad drillings. As I write these lines, on September 26, in my bush-tent in one of the home orchards, a sap-sucker is busy on a veteran apple tree, whose fruit has often gone to school with me in my pockets during my boyhood days on the farm. He goes about his work systematically, visiting one of the large branches and then a portion of the trunk, and drilling his holes in rows about one-quarter of an inch apart. Every square foot of the trunk contains from three to four hundred holes, new and old, cut through into the inner vital cambium layer. The holes are about the size of the end of a rye straw, and run in rings around the tree, the rings being about half an inch apart. The newly cut ones quickly fill with sap, which, to my tongue, has a rather insipid taste, but which is evidently relished by the woodpecker. He drills two or three holes, then pauses a moment, and when they are filled sips his apple tree tipple leisurely. The drain upon the vitality of the tree at any one time, by this tapping, cannot be very serious, but in the course of years must certainly affect its vigor considerably. I have seen it stated in print by a writer who evidently draws upon his fancy for his facts, that in making these holes the bird is setting a trap for insects, and that these are what it feeds upon. But the bird is a sap-sucker; there are no insects at his wells today; he visits them very regularly, and is constantly

drilling new ones. His mate, or at least a female, comes, and I overhear the two in soft, gentle conversation. When I appear upon the scene the female scurries away in alarm, calling as she retreats, as if for the male to follow; but he does not. He eyes me for a moment, and then sidles around behind the trunk of the tree, and as I go back to my table I hear his hammer again. Very soon the female is back and I hear their conversation going on as before.

Day after day the male is here tapping the trees. His blows are soft and can be heard only a few yards away. He evidently has his favorites. In this orchard of twenty or more trees, only two are worked now, and only three have ever been much worked. The two favorites bear hard, sour fruit. The bark of a sweet apple tree does not show a single hole. A grafted tree shows no holes on the original stock, but many punctures on the graft. One day I saw the bird frequently leave his drilling on one tree and go to another, drilling into a small red apple which had lodged amid some twigs on a horizontal branch; he ate the pulp and had made quite a large hole in the apple, when it became dislodged and fell to the ground. It is plain, therefore, that the sap-sucker likes the juice of the apple, and of the tree that bears the apple. He is the only orchard bird who is a tippler. Among the forest trees, he sucks the sap of the sugar maples, in spring, and I have seen evidence of his having drilled into small white pines, cutting out an oblong section from the bark, apparently to get at the soft cambium layer.

Red-Headed Woodpecker (*Melanerpes erthrocephalus*)

By Florence Merriam Bailey

Length, 9½ inches.

Range: Common throughout Eastern North America.

The Woodpeckers are a band of foresters most of whom spend their lives saving trees. Many of them do their work hidden in the dark forests, but the Red-heads hunt largely out in plain sight of passers-by. Why? Because, while they devour enough enemies of the trees to deserve the name of foresters, they are particularly fond of vegetable foods and large beetles found in the open.

Watch one of the handsome Red-headed birds on a fence. Down he drops to pick up an ant or a grasshopper from the ground; then up he shoots to catch a wasp or beetle in the air. Nor does he stop with fly-catching. Nutting—beech-nutting—is one of his favorite pastimes; while berries, fruits, and seeds are all to his taste. If, in his appreciation of the good things that man offers, the Red-head on rare occasions takes a bit more cultivated fruit or berries than his rightful share, his attention should be diverted by planting some of his favorite wild fruits, such as dogwood, mulberry, elderberry, chokecherry, or wild black cherry.

But, in judging of what is a bird's fair share of man's crops, many things should be considered. Food is bought for the canary and other house pets; and

13

RED HEADED WOODPECKER
Life-size.

many people who do not care for caged pets buy food for the wild birds summer and winter, to bring them to their houses. Flowers cost something, too. But without birds and flowers, what would the country be? Before raising his hand against a bird, a man should think of many things. A man who is unfair to a bird is unfair to himself.

It would be a stingy man, indeed, who would begrudge the Woodpeckers their acorns and beechnuts. While the leaves are still green on the trees, the Redheads discover the beechnuts and go to work. "It is a truly beautiful sight," Dr. Merriam says, "to watch these magnificent birds creeping about after the manner of Warblers, among the small branches and twigs, which bend low with their weight, while picking and husking the tender nuts."

The nuts are not always eaten on the spot, for, like their famous California cousins, the Redheads store up food for winter use. All sorts of odd nooks and crannies serve the Redheads for storehouses—knot-holes, pockets under patches of raised bark, cracks between shingles and in fences, and even railroad ties. Sometimes, instead of nuts, grasshoppers and other eatables are put away in storage. The wise birds at times make real caches, concealing their stores by hammering down pieces of wood or bark over them.

Beechnuts are such a large part of the fall and winter food of the Redheads in some localities that, like the gray squirrels, the birds are common in good beechnut winters and absent in others. Cold and snow do not trouble them, if they have plenty to eat, for, as Major Bendire says, many of them "winter along our northern border, in certain years, when they can find an abundant supply of food." In fact, in the greater part of the eastern states the Redhead is "a rather regular resident," but in the western part of its range "it appears to migrate pretty regularly," so that it is rare to see one "north of latitude 40°, in winter." The western boundary of the Redhead's range is the Rocky Mountains, but east of the mountains it breeds from Manitoba and northern New York south to the Gulf of Mexico; though it is a rare bird in eastern New England.

In sections where this erratic Woodpecker migrates, it leaves its nesting-grounds early in October, and returns the latter part of April or the beginning of May. Before too much taken up with the serious business of life, the Redhead goes gaily about, as Major Bendire says, "frolicking and playing hide-and-seek with its mate, and when not so engaged, amusing itself by drumming on some resonant dead limb, or on the roof and sides of houses, barns, etc." For, though like other drummers, the Woodpeckers are not found in the front ranks of the orchestra, they beat a royal tattoo that may well express many fine feelings.

When the musical spring holiday is over and the birds have chosen a tree for the nest, they hew out a pocket in a trunk or branch, anywhere from eight to eighty feet from the ground. When the young hatch, there comes a happy day for the looker-on who, by kind intent and unobtrusive way, has earned the right to watch the lovely birds flying back and forth, caring for their brood.

And then, at last, come the days when the gray-headed youngsters, from hanging out of the window, boldly open their wings and launch into the air. Anxious times these are for old birds,—times when the watcher's admiration may be roused by heroic deeds of parental love; for many a parent bird fairly flaunts in the face of the enemy, as if trying to say, "Kill me; spare my young!"

One family of Redheads once gave me a delightful three weeks. When the old birds were first discovered, one was on a stub in a meadow. When joined by its mate, as the farmer was coming with oxen and hayrack to take up the rows of haycocks that led down the field, the pair flew slowly ahead along a line of locusts, pecking quietly at the bark of each tree before flying on. At the foot of the meadow they flew over to a small grove in the adjoining pasture.

As it was July, it was easy to draw conclusions. And when I went to the grove to investigate, the pair were so much alarmed that they at once corroborated my conclusions. Did I mean harm? Why had I come? One of them leaned far down across a dead limb and inspected me, rattling and bowing nervously; the other stationed itself on the back of a branch over which it peered at me with one eye. Both of them cried *krit'-tar-rah* every time I ventured to take a step. As they positively would not commit themselves as to which one of the many woodpecker holes in sight belonged to them I had to make a tour of the grove.

On its edge was a promising old stub with a number of big, round holes and, picking up a stick, I rapped on the trunk. Both birds were over my head in an instant, rattling and scolding till you would have thought I had come to chop down the tree and carry off the young before their eyes. I felt injured, but, having found the nest, could afford to watch from a distance.

It was not long before the old birds began feeding their young. They would fly to the stub and stand under the nest while rousing the brood by rattling into the hole, which had the odd effect of muffling their voices. When, as they flew back and forth a yellow-hammer stopped in passing, they drove him off in a hurry. They wanted that grove to themselves.

On my next visits, if, in spite of many precautions, they discovered me, they flew to dead tree tops to watch me, or startled me by an angry "quarr, quarr, quarr" over my head. When they found that I made no attempt to go near the nest, however, they finally put up with me and went about their business.

After being at the nest together they would often fly off in opposite directions, to hunt on different beats. If one hunted in the grove, the other would go out to the rail fence. A high maple was a favorite lookout and hunting-ground for the one who stayed in the grove, and cracks in the bark afforded good places to wedge insects into. The bird who hunted on the fence, if suspecting a grub in a rail, would stand as motionless as a robin on the grass, apparently listening; but when the right moment came would drill down rapidly and spear the grub. If an insect passed that way the redhead would make a sally into the air for it, sometimes shooting straight up for fifteen or twenty feet and coming down almost

as straight; at others flying out and back in an ellipse, horizontally or obliquely up in the air or down over the ground. But oftener than all, perhaps, it flew down onto the ground to pick up something which its sharp eyes had discovered there. Once it brought up some insect, hit it against the rail, gave a business-like hop and flew off to feed its young.

The young left the nest between my visits, but when, chancing to focus my glass on a passing woodpecker, I discovered that its head was gray instead of red, I knew for a certainty what had happened. The fledgling seemed already much at home on its wings. It flew out into the air, caught a white miller and went back to the tree with it, shaking it and then rapping it vigorously against a branch before venturing to swallow it. When the youngster flew, I followed, rousing a robin who made such an outcry that one of the old redheads flew over in alarm. "Kik-a-rik, kik-a-rik," it cried, as it hurried from tree to tree, trying to keep an eye on me while looking for the youngster. Neither of us could find it for some time, but after looking in vain over the west side of a big tree I rounded the trunk and found it calmly sitting on a branch on the east side—which goes to prove that it is never safe to say a woodpecker isn't on a tree, till you have seen both sides!

The old redhead found the lost fledgling about the time I did and flew over to it with what looked like a big grub. At the delectable sight, the youngster dropped all its airs of independence, and with weak infantile cries turned and opened wide its bill!

Two days later I found two birds that may have been father and son, on the side of a flagpole, out in the big wide world together. The old bird's head glowed crimson in the strong sunlight, and it was fortunate indeed that only friends were by.

The striking tricolor makes the redheads such good targets that they are in especial danger from human enemies and need loyal, valiant defenders where ever they live. And what a privilege it is to have birds of such interesting habits and beautiful plumage in your neighborhood! How the long country roads are enlivened, how the green fields are lit up, as one of the brilliant birds rises from a fence-post and flies over them! In the city, it is rare good luck, indeed, to have a pair nest in an oak where you can watch them; and even a passing glimpse or an occasional visit is something to be thankful for.

"There's the redhead!" you exclaim exultantly, when a loud tattoo beats on your city roof in spring. And "There's the redhead!" you cry with delight, as a soft "kikarik" comes from a leafless oak you are passing in winter; and the city street, so dull and uninteresting before, is suddenly illuminated by the sight.

Spring Birds on the Kankakee

By Edward B. Clark

The cup of the bird-lover is full who is permitted to wander along the Kankakee's wooded banks or to float in a boat on its bosom during the early May time. It is a varied bird-life that makes glad this river valley. The wood ducks nest in the timber, the golden plover dot the meadows, the sandpipers bob on the river bars, the tree swallows dip in the waters, and warblers in thousands haunt the treetops. In the early morning hours river, woodland, and marsh ring with the bird chorus.

It was warbler time, the first week in May, when three of us having a common hobby left the great city and took the way which led to the pleasant river valley. My companions were of the gentler sex, but with a keen enthusiasm and an untiring perseverance in the pursuit of field study. Our train drew into the little village of Kouts, Indiana, where we found waiting a comfortable democrat wagon which was to take us the last stage of our journey, five miles across country to the banks of the Kankakee. It was after sundown, but some sparrow songs floated to us from across the fields and an oriole whistled good night from an elm. Our host had met us, and as we drove along through the deepening dusk, he told us that the whippoorwill had come. It was a bit of superfluous information, for at that instant, from a little stretch of timber at the side of the road, the bird he had named called to us softly. Its voice gained in volume as it rolled out the syllables one after another. I have read in one of the books that William calls for his thrashing five times in succession, and then pauses for a while before he begins his plea again. My birds, like those of Dr. Abbott, are always doing something contrary to the books. That Kankakee whippoorwill certainly made no pause for breath until we were well out of hearing. At the time that I had read the statement that the bird rested after calling five times, I sought a whippoorwill haunt for the sole purpose of testing the matter. When darkness had settled over the wood, one of the birds began calling. I counted fifty-eight "whippoorwills" uttered in rapid succession. I gave up the task, firmly convinced that it is rarely safe to put down anything as a bird rule without making due allowance for exceptions.

Another Kankakee Valley whippoorwill sang me to sleep that night, and during the occasional wakeful moments caused by the newness of the surroundings I heard him still calling. The night bird's voice was mingling in my dreams with a note of sweeter substance when I woke to a consciousness that day was breaking, and that an oriole was giving it a jubilant welcome from a maple at the window. Enthusiasm took all three of us afield before breakfast for an hour with the birds. One of the soft maples in the dooryard, our host told us, had for four successive years been the home of a pair of orioles. He was firmly convinced that the two birds which were then at his door were his

friends of other years. In the maple next the oriole home site was the empty tenement of a warbling vireo. My companions had visited the valley the year before, and had found the vireo nest when it held its treasure of eggs. They told me how the father bird relieved his patient wife of her household duties at intervals during the day, and how all the while that he sat upon the nest he sang sweetly the warbling song that gives him his name. Somewhere in this habit of the vireo there is hidden a lesson for humankind. Not much searching is needed to find it.

The Kankakee flows along not more than a hundred yards from our farmhouse headquarters. We started for the river bank, but found bird-life so abundant that we made little more than half the journey before the breakfast bell summoned us. The field sparrow, the little fellow with the red bill and the chestnut crown, sang his sweet note from the fence post and did not appear at all discouraged because his brother song sparrow was giving a much better entertainment within a rod. From a little patch of bushes in the damp pasture came the call, "Witchety-witchety-witchety," and in a moment a Maryland yellow-throat showed his black-masked face to us through the tender green of the foliage. The yellow-throat is a beauty, but one cannot say as much for his voice. There were some chewinks, perhaps better known as towhees, in the pasture, and one of them kindly sang for us. The towhee's song, it has always seemed to me, has just about volume enough for a bird of half its size. But then we mustn't expect too much; the towhee wears a beautiful suit of black, terra-cotta, and white, and he knows how to show it to advantage. He charms our color sense, and we forgive him readily for not being a nightingale.

The cow blackbird is despised above all feathered kind. It is a parasite, building no nest of its own, but depositing its eggs in the homes of smaller birds. The warblers are generally the ones imposed upon. They often seem unable to detect the deception, and hatch the egg and rear the cow-bird to a sacrifice of their own young. This habit is too well known to be dwelt upon. The cow-bird, in the spring, has just one sweet note. That is to say, at times this one note is sweet. If the bird tries to continue the performance it fails miserably, producing something like the sound of a file drawn over a lemon-grater. As we stood that May morning listening for a repetition of the yellow-throat's "witchety," there came one liquid note from a treetop. In chorus we said, "Cow-bird." The next instant there followed note after note of liquid beauty from the same treetop, and shamefacedly we looked at one another and said, "Wood thrush." If greater ignominy can come to bird-students who have haunted the fields for years than to mistake the note of one of America's sweetest singers for that of the despised cow-bird, let it be named. The wood thrush forgave us for the insult and heaped coals of fire on our heads by continuing his song as long as we staid to listen.

The catbirds and the brown thrashers sang their medleys from the thicket.

The Kankakee River country is a catbird and thrasher paradise. We saw more catbirds during that May outing than we did robins. The region affords the catbirds ideal nesting-places, and judging solely from numbers I should say that it will be many generations before their race is run. A swamp extending back from the river encroaches upon the pasture-land. We had not left the singing thrush far behind before we started a green heron from its swamp retreat. A lesser blue heron took flight a moment later. It is a much rarer bird than its green brother. As we were about to retrace our steps a great blue heron ceased its frog-hunting and flapped away leisurely over the trees. On the way back to the house and to breakfast, we crossed a foot-bridge. A male phœbe was sitting on a post near at hand. Out of curiosity I threw myself prone on the wet sod at the side of the path and peered under the bridge. I thought I should find something there, and I did find enough to pay me for damp clothes and a strained neck. A phœbe's nest of perfect architecture was fastened to one of the beams of the bridge, with the mother bird holding faithfully by her charge even in the face of the intruder. Father Phœbe from his fence-post perch did not seem at all put out at the encroachment on his door-yard. While the inspection of the nest was going on he unconcernedly flew out, snapped up a fugitive fly, and then went back to his post. After each of us had taken a peep at the mossy structure under the bridge we bothered the brave little mother no more. Within twenty-five yards there was another foot-bridge, and on a cross-beam beneath another pair of phœbes had a nest half completed.

When the Kankakee overflows its banks and makes a broad lake of a part of the country and a marsh-land of the rest, the Indiana region is a favorite resort for gunners. Some of the water birds linger late into the spring, many of them staying weeks after the time that the law first gives them protection from persecution. Some of the pools in the meadows do not dry up until June, and there the hunter who carries an opera-glass instead of a shotgun has a fleeting chance to scrape acquaintance with strangers. We started out after breakfast to seek the marshes. The way to them was along a road which ran parallel to the river and through a wood that was musical with the voices of birds. The orioles of the Kankakee were a revelation to me. They were there in great numbers, and were found not only in the trees near the dwellings of men, but in the depths of the woods. I never knew until that May morning that an oriole could scream. We had crossed the long bridge spanning the river and entered on the road through the woods, when from above our heads came a scream of terror. It was almost humanlike in its agony of fear. Looking up we saw an oriole pursued by a hawk. It was the oriole that was doing the screaming. I took the hawk to be the broadwing, though the identification was not certain. Its flight was lumbering and heavy, but it seemed to be gaining on its quarry, which was straining every feather to escape. We

watched the chase with an interest mingled with fear. Suddenly a tree swallow appeared. I don't pretend to say that the swallow had in mind the saving of the oriole, but save it it did, whether the act was one of kindness or of accident. The eye had trouble to follow the swallow's rapid flight. It passed between the oriole and the hawk, staying its course momentarily as though with a set intent. The hawk saw the nearer bird, and reasoning that the nearer must necessarily be the easier prey, it turned aside from its pursuit of the oriole and followed the elusive swallow. The oriole made for shelter, while the swallow, with doubtless an inward chuckle, increased its pace and left the hawk so far in the lurch that it gave up the chase and flew disgustedly back over the woods.

In the trees along the roadway we found the black-throated blue warblers, the black and white tree-creepers, the yellow warblers, and the fiery redstarts. These last-named warblers, which look like diminutive orioles, were lisping their incessant notes from nearly every tree. We heard the call of the cardinal in the woods. This bird is not common as far north as our Kankakee hunting ground, and one brilliant specimen which flashed across the road and disappeared in the thicket was the only one of its kind that we saw.

The woods ended and the marsh began. There was a pool at the edge of the timber, and about it were running two spotted sandpipers. When I was a boy these tiny waterside dwellers were called "tip-ups." The name fits them to a nicety, for their bodies are in constant motion, and look like diminutive teeter-boards; first the head is in the air, then down it goes, and the apology for a tail bobs up. This operation is repeated incessantly. Some solitary sandpipers were flying about the pool and the adjacent marsh. Finally, to our surprise, one of them lit on a fence post within twenty feet of us, and there stood fearlessly while we stared at it through our glasses. It is strange how quickly the game birds learn that the shooting season is over. Two weeks before the solitary would have given us a wide berth, even though we had nothing more harmful than field-glasses with which to bring it down. I wanted to put the bird to flight so that we could see its white markings to better advantage, and I picked up a stick to toss toward it. The missile got no farther than my hand, however, because my gentler-minded companions begged me not to abuse, even to that extent, the bird's confidence.

We flushed one after another three jacksnipe which were feeding in the marsh at the very edge of the road. They rose with the squawk that is translated into "scaipe" by most of the books.

A dark cloud was moving rapidly over the marsh. Suddenly its color changed to silver, and then as quickly it went to black again. It was a flock of May plover that had lingered late on this choice feeding-ground. The May plover is also called grass snipe and grass plover; neither of the three is its right name. It is the pectoral sandpiper. The birds go in large flocks, and

twelve or fifteen of them are often killed at one discharge of the gun. When the dead and wounded have dropped from the flock, the remnant will often whirl about and fly back over the fallen comrades, only to be met with another deadly discharge. The wonder is that there are any pectoral sandpipers left to add life to the spring marshes.

We walked back through the woods and across the river bridge to a boat-house. There we hired a comfortable and safe-looking snub-nosed boat for a trip on the broad stream. The woman who rented us the boat said that notwithstanding her occupation she had never been on the river in her life, and in it only once. That once she fell in from the bank. She also told us, for she saw that we were bird enthusiasts, that she loved the birds, but knew very little about them. "There is one bird, however," she said, "to whose note I am never tired of listening, though I don't know the singer's name. The song is like the sound of the tinkling of the triangle. There, the bird is singing now"; and as she spoke the rich notes of the wood thrush came across the river. I think that those who have once heard the "tinkling" of the little musical instrument called the triangle will admit that the woman's description of the wood thrush's song cannot be improved upon.

We shaped our course up the stream. The Kankakee woods where they edge the river are the haunts of the prothonotary warbler, perhaps the most beautiful member of a notedly beautiful family. The prothonotary owes its long name to the fact that it wears a yellow coat such as the prothonotaries, or court clerks, wore once upon a time. We had looked forward to meeting these warblers with a good deal of pleasure, but were disappointed to find that only a few of them had arrived from their southern winter resort. One pair, however, came so close to us when we landed at a picturesque point on the river that we had a golden opportunity in a double sense to get an adequate idea of the bird's ways and beauty. The prothonotaries have a habit of constantly flying back and forth over the river. Their yellow bodies are reflected in its smooth surface, and the observer has a double color treat every time the bird crosses. The prothonotary builds in a hole in a tree or in a decayed stump, after the manner of the bluebird, and the nests are only less interesting than the birds themselves.

The tree swallows of the Kankakee Valley believe that the customs of their ancestors are good enough for the descendants. They build in colonies in hollow trees, like their forefathers. The tree swallows that wander away into the haunts of men make their homes in bird-houses or in crevices in buildings. Nearly every group of dead tree trunks along the Kankakee River has its swallow colony. There were thousands of the birds flying up and down the river, dropping down now and then to dip in its waters. We passed many of them sitting upon the tips of dead branches or upon the scarred tops of stumps.

MARSH HAWK.

The tree swallow's under parts are pure white, while its back and shoulders, when the sun strikes them full and fair, are a shimmering green.

We turned the prow of our little boat toward the shore and landed by some great trees under which the Indians once must have roamed. There two male redstarts gave us a diversion by having a pitched battle, first on a limb, then in the air, and then on the limb again. We stayed in the vicinity for certainly half an hour, and though we did not watch them constantly, I think that these little warblers, whose tempers are as fiery as their plumage, never once gave over fighting. We found a red-bellied woodpecker on one of the big trees. This locality is, I think, about its northern limit, though one careful observer has reported the presence of one of these woodpeckers in Lincoln Park, Chicago. We heard the note of the tufted titmouse. It was the same "Peter-peter-peter" that I had heard early in March in the southern Hoosier hills.

As the shadows began to lengthen, we floated homeward with the gentle current of the river. When the sun declined the wood thrushes found voice once more. Their songs attended us all the way to the farm-house. Perhaps the birds knew of their listeners' appreciation, and were moved sympathetically to sing until it was time for the vesper sparrow to close the day's concert.

The Marsh Hawk (*Circus Hudsonius*)

By W. Leon Dawson

Length: 19 inches. Range: North America, south to Panama.
Nest: On ground; eggs, 3 to 6.

Humility is the leading characteristic of this "ignoble" bird of prey, whether we regard its chosen paths, its spirit, or the nature of its quarry. Pre-eminently a bird of the meadows and marshes, it usually avoids the woods entirely, and is to be seen coursing over the grass and weed-tops with an easy gliding flight. Since it flies at such a low elevation as neither to see or be seen over the limits of an entire field, it often flies in a huge zigzag course "quartering" its territory like a hunting dog. Now and then the bird pauses and hovers to make a more careful examination of a suspect, or drops suddenly into the grass, seizes a mole or a cricket, and retires to a convenient spot— a fence-post or a grassy knoll— to devour its catch. The food of the Marsh Hawk consist almost entirely of meadow mice, gophers, garter snakes, frogs, lizards, grasshoppers and the like. Only in the winter is it driven to prey to any large extent upon birds, and then only such northern birds as frequent weedy bottoms and swampy tangles, Tree Sparrows, Juncoes, etc.

This Hawk is the most unwary, as it is the most useful, of its race. It is no achievement to assassinate one from behind the cover of a convenient haycock, or even to arrest its easy flight in an open field. The tillers of the soil have done

nothing more foolish or more prejudicial to their own interests than to allow and encourage the slaughter of this innocent and highly useful member of the agrarian police. A farmer would have as just cause to be indignant at some interloper who shoots a Marsh Hawk on his premises as at another who breaks up his gopher traps.

As the breeding season approaches, the male Harrier, feeling the impulse of the ennobling passion, mounts aloft and performs some astonishing aerial evolutions for the delectation of his mate. He soars about at a great height screaming like a Falcon, or he suddenly lets go and comes tumbling out of space head over heels, only to pull up at a safe distance from the ground and listen to the admiring shrieks at his spouse. At other times he flies across the marsh in a course which would outline a gigantic saw, each of the descending parts done in a somersault and accompanied by the screeching notes, which form the only love song within the range of his limited vocal powers. This operation is not necessary in order to win his mate, for he is supposed to have won her "for keeps," but after all, it is well enough to remind her now and then that he is a very good fellow, for she is a size larger than he and a little exacting in matters of courtesy.

Not only are the Marsh Hawks wedded for life, but the male is very devoted to his family. He assists in nest building, shares the duty of incubation, and is assiduous in providing for his brooding mate. During the last week in April or the first week of May a nesting site is selected, usually in the tall grass adjoining a swamp. If the ground is wet, sticks are first laid down, but otherwise only grass, dead leaves, and weed-stems, with a little hair and moss or feathers, are used to build up a low platform, broad and slightly hollowed on top. Here four or five eggs are commonly laid, but six is not unusual, and two sets of eight are recorded, one from Washington and one from Iowa. In the former state I once found a nest on the ground in a little opening of a poplar grove, the birds having probably retired to the woods to avoid the winds prevalent at that season.

Incubation is accomplished in about three weeks, or if it has commenced with the laying of the first egg, as is often the case, then the last egg may not hatch for a week longer. While the female is brooding the young, she is frequently fed by the male from a considerable height. Mr. Lynds Jones relates one such instance where an element of sportiveness seemed to enter in: "Once during the breeding season I saw a male catch a large garter snake and fly up with it several hundred feet, and then drop it to the female who just then came flying along near the ground; she caught and carried it to the nest, followed by the male."

The young, after leaving the nest, hunt for several months with their parents, and the last and costliest lesson which they learn is fear of man. If these most excellent mousers had half the gratitude shown them which we manifest to cats, they might be abundant where they are now rare.

The Bird That Sang in May

By William Bromwell

A little bird came to my window shutter
One lonely morning at the break of day,
And from his little throat did sweetly utter
A most melodious lay.

He had no language for his joyous passion,
No solemn measure nor artistic rhyme;
Yet no devoted minstrel ere did fashion
Such perfect tune and time.

It seemed of thousand joys, a thousand stories
All gushing forth in one tumultuous tide;
A hallelujah to the morning-glories
That bloomed on every side.

And with each canticle's voluptuous ending
He sipped a dewdrop from the dripping pane,
Then heavenward his little bill extending
Broke forth in song again.

I thought to emulate his wild emotion,
And learn thanksgiving from his tuneful tongue,
But human heart ne'er uttered such devotion,
Nor human lips such song.

At length he flew and left me in my sorrow,
Lest I should hear these tender words no more,
And though I early waked for him each morrow
He came not nigh my door.

But once again one silent summer even
I met him hopping in the new-mown hay;
But he was mute and looked not up to heaven,
The bird that sang in May.

And such methinks are childhood's dawning pleasures;
They charm a moment and then fly away.
Through life we sigh and seek those missing treasures,
The birds that sing in May.

This little lesson, then, my boy, remember,
To seize each bright-winged blessing in its day,
And never hope to catch in cold December
The bird that sang in May.

The House Wren (*Troglodytes aëdon*)

By I. N. Mitchell

The little bird sits at his door in the sun,
Atilt like a blossom among the leaves,
And lets his illumined being o'errun
With the deluge of summer it receives;
His mate feels the eggs beneath her wings,
And the heart in her dumb breast flutters and sings;
He sings to the wide world, and she to her nest—
In the nice ear of Nature which song is the best?
—James Russell Lowell.

The diminutive house wren frequents barns and gardens, and particularly old orchards in which the trees are partially decayed. He makes his nest in a hollow branch where perhaps a woodpecker had a domicile the year before, but he is a pugnacious character, and if he happens to fancy one of the boxes that are put up for bluebirds, he does not hesitate to take it. He is usually not slow to avail himself of boxes, gourds, tin cans, or empty jars placed for his accommodation.

As regards food habits, the house wren is entirely beneficial. Practically, he may be said to live upon animal food alone, for an examination of 52 stomachs showed that 98 per cent of the contents was made up of insects or their allies, and only 2 per cent was vegetable food, including bits of grass and similar matter, evidently taken by accident with the insects. Half of this food consisted of grasshoppers and beetles; the remainder of caterpillars, bugs, and spiders. As the house wren is a prolific breeder, frequently rearing in a season from twelve to sixteen young, a family of these birds must cause considerable reduction in the number of insects in a garden. Wrens are industrious foragers, searching every tree, shrub, or vine for caterpillars, examining every post and rail of the fence, and every cranny in the wall for insects or spiders.

Range: Eastern United States and Ontario, west to Indiana and Louisiana; length, five inches; sexes alike; nest of twigs lined with grasses or feathers, in vines, about buildings or in a hole or box; eggs, five to eight; broods, two or three; song, a strong, cheery warble.

The robin, bluebird and tree-swallow have settled down to their housekeeping by the time this little brown sprite makes his appearance and begins to look around for a cozy nook or hole or box.

He generally comes in full song and that morning is a happy one that hears his joyous warble for the first time. To the grown-up this first spring song of the wren is much the same as the first snow-fall to the child.

What a singer the busy little body is! From early in the morning till dusk he repeats his short but whole-souled warble. The rests between songs are about as long—or short as the song itself, so this musical mite is singing about half of the time. The robin sings his "*cheer-up*" well into the summer, but it becomes

HOUSE WREN.
About Life-size.

conspicuously a morning and evening song. The bluebird soon settles down into quiet watchfulness; his heavenly blue still pleases the eye, but the ear listens in vain for the accompanying flute-notes. A brief period of courtship occurs between the flying of the first brood and the completion of the second set of eggs. In this short interval the welcome song is again heard, but it soon gives way to the serious duties of life. The wren, on the contrary, is a good lover. He is never too serious to sing. He is a veritable Mark Tapley; the cares of life only serve to increase his good nature. As long as there is an egg unhatched or a youngster to be fed, he cheers his mate and his neighbors with his song.

Ever on the alert, he gives timely warning of the approach of their arch-enemy the cat, and vigorously resents the close approach of their human friends by a rapid clicking or chattering note that amounts almost to a hiss.

He reminds one of Sir William Jones's lines:

"What constitutes a state?
Men who their duties know,
But know their rights, and, knowing, dare maintain."

The wrens are models of industry. Two to three broods a year with from five to eight youngsters in a brood leave no chance for race suicide. With so many little ones to care for they need more than an eight-hour day. The wren begins his song and his search for insects by half-past four in the morning and keeps up both as long as he can see. He and Mrs. Wren are said to make as many as three hundred visits to the nest per day. This is probably when the young are about ready to leave the nest.

The wrens hunt on and near the ground, under and among plants and bushes. They run along the ground like a streak and in the dusk are easily mistaken for mice.

The gardener can afford to be friendly to these little brown mites, for their hundreds of visits each day to the bean patch and lettuce bed mean the destruction of great numbers of caterpillars and full grown insects that would live on the vegetables if they were given a chance.

Almost anyone may have the pleasure of the company of a pair of wrens if he will extend the proper invitation. Nor is the invitation a difficult one to extend. Any box with a small hole in it, if placed in a tree, on a pole, or among vines where he can easily find it, will prove attractive. The doorway should be only a little larger than a silver quarter, say one and one-eighth inches, and should be about three or four inches above the bottom of the box. If the doorway is much larger than a quarter, the bluebird, tree swallow or English sparrow is likely to appropriate the box. An old wooden shoe, a boot, a tomato can, an olive bottle, a coat pocket, a gourd with a hole in it, a knothole in the side of a house, are among the forms of invitation that have proved acceptable to the wrens.

There seems to be a family feud between the wrens and bluebirds. If,

therefore, the bluebirds are already established on the premises, it would be wise to place the wren box as far away as possible; even then the bluebird may drive the wren to a neighboring yard.

This is more likely to happen in the spring before the vines and leaves offer the wren good hiding places.

The wren is probably the cause of this ill feeling. He can not resist the temptation to enter into every hole he finds. He has a passion for house cleaning or for mischief, maybe for both. He slips into the boxes of the bluebirds and swallows and throws out their nesting material, not for use in his own nest, but apparently just for fun. He will bring bit after bit, feather after feather, to the doorway and flirt it out. With head tilted to one side he watches, with apparent pleasure, the bit or feather fall or float away.

No wonder that the bluebird does not wish him for a neighbor.

The Chimney Swift (*Chaetura pelagica*)

By Thomas Nuttall

Length: 5½ inches.

Range: Eastern North America, north to Labrador. Food consists entirely of insects.

Nest: Usually cemented to inside wall of a chimney; eggs, 4 to 6.

This singular bird, while passing the winter in tropical America, arrives in the middle and northern States late in April or early in May. Its migrations extend at least to the sources of the Mississippi, where it has been observed by travelers.

More social than the foreign species, which frequent rocks and ruins, our Swift takes advantage of unoccupied and lofty chimneys, the original roosting and nesting situation having been tall, gigantic hollow trees, such as the elm and the buttonwood or sycamore. The nest is formed of slender twigs neatly interlaced, somewhat like a basket, and connected sufficiently together by a copious quantity of adhesive gum or mucilage secreted by the glands beneath the tongue of the curious architect. This crude cradle of the young is small and shallow, and attached at the sides to the wall of some chimney, or inner surface of a hollow tree. It is wholly destitute of lining.

So assiduous are the parents that they feed the young through the greater part of the night; their habits, however, are nearly nocturnal, as they fly abroad most at and before sunrise and in the twilight of evening. The noise which they make while passing up and down the chimney resembles almost the rumbling of distant thunder.

When the nest gets loosened by rains so as to fall down, the young, though blind, find means of escape, by creeping up and clinging to the sides of the

CHIMNEY SWIFT.
⅗ Life-size.

chimney walls. In this situation they continue to be fed for a week or more. Soon tired of their hard cradle, they generally leave it long before they are capable of flying.

On their first arrival, and for a considerable time afterward, the males particularly associate to roost in a general resort. This situation, in the remote and unsettled parts of the country, is usually a large hollow tree open at the top. These well-known "Swallow trees" are ignorantly supposed to be the winter quarters of the species, where in heaps they are believed to doze away the cold season in a state of torpidity, but no proof of the fact has ever been adduced.

The length of time such trees have been resorted to by particular flocks may be conceived perhaps by the account of a hollow tree of this kind described by the Rev. Dr. Harris in his journal. The sycamore alluded to grew in Waterford, Ohio, two miles from the Muskingum River. Its hollow trunk, now fallen, of the diameter of five and a half feet, for nearly fifteen feet upward, contained a solid mass of decayed Swallow feathers, mixed with brownish dust and the exuviæ of insects.

In inland towns these birds have been known to make their general roost in the chimney of the court-house.

Before descending they fly in large flocks, making many ample and circuitous sweeps in the air, and as the point of the vortex falls individuals drop into the chimneys by degrees, until the whole have descended, which generally takes place in the dusk of the evening. They all, however, disappear about the first week in August.

Like the Swallow, the Chimney Swift flies very quick, and with but slight vibrations of its wings, appearing, as it were, to swim in the air in widening circles, shooting backward and forward through the ambient space at great elevations, and yet scarcely moving its wings. Now and then it is heard to utter, in a hurried manner, a sound like *tsip-tsip-tsip-tsee-tsee*. It is never seen to alight but in hollow trees or chimneys, and appears always most gay and active in wet and gloomy weather.

The Swift never lights upon the ground or buildings, never touching earthly food, and is capable of flying 1,000 miles in 24 hours. The color plate shows nicely the form and size of the nest and how it is glued to the bricks. Notice that it has no lining.

The Screech Owl (*Otus asio*)

By Henry W. Henshaw

Length: About 8 inches. Our smallest owl with ear tufts. There are two distinct phases of plumage, one grayish and the other bright rufous.

Range: Resident throughout the United States, southern Canada, and northern Mexico.

Habits and economic status: The little screech owl inhabits orchards, groves, and thickets, and hunts for its prey in such places as well as along hedgerows and in the open. During warm spells in winter it forages quite extensively and stores up in some hollow tree considerable quantities of food for use during inclement weather. Such larders frequently contain enough mice or other prey to bridge over a period of a week or more. With the exception of the burrowing owl it is probably the most insectivorous of the nocturnal birds of prey. It feeds also upon small mammals, birds, reptiles, batrachians, fish, spiders, crawfish, scorpions, and earthworms. Grasshoppers, crickets, ground-dwelling beetles, and caterpillars are its favorites among insects, as are field mice among mammals and sparrows among birds. Out of 324 stomachs examined, 169 were found to contain insects; 142, small mammals; 56, birds; and 15, crawfish. The screech owl should be encouraged to stay near barns and outhouses, as it will keep in check house mice and wood mice, which frequent such places.

Nest: In a hole in a tree; eggs, four to eight; note, a soft tremulous whistle.

This little owl is common even in towns and cities. It is occasionally seen and frequently heard along the streets.

One of the most interesting things about it is its variation in color. The color plate gives an excellent idea of the red phase. Now, if you will imagine a specimen as gray as the bark of a tree, you will have an idea of the other extreme of color. Then you must remember that there are all degrees of variation or mixture from the red to the gray.

Another interesting feature is the pair of ear-tufts or so-called horns. If the bird in the picture were facing you, the tufts would appear much more like horns. The cut apparently represents the screech owl at night after supper. His ears sag back and his whole attitude is one of content. Indeed, he looks as though he might be stuffed with mice instead of excelsior. Had his picture been taken before supper, the ear tufts would have been raised and the whole body would have shown alertness in every line, like the terrier's when he asked, "Who said rats?"

It is not very often that this or any of the owls, except the great horned owl, moves about much in the daytime. For one reason, as everyone knows, they can not see well in bright light. Then again their food, mainly mice, is

of the nocturnal kind; and, as an additional reason, their great unpopularity among the other birds leads them to seek the shelter of the nesting hole.

One would think that when a bird discovers an owl hiding in the thick branches of a tree, he would go off and let him alone, but not so. The bird at once gives the alarm, the birds gather from the neighborhood, especially the jays, like boys at the call of a fight. They scold, and call police! police! They fly at the unfortunate owl and snap their bills in his face until he is very uncomfortable. Finally he tumbles clumsily out of the besieged tree, flies away, and tumbles into another tree. Here the performance is very likely to be repeated. No wonder then that our little owl remains cozily hidden in the hollow tree sleeping away the daylight hours.

But when the day begins to wane, he knows that his time has come. On noiseless wings, drops upon its prey, clutches it with sharp talons and tears it with his beak. The prey is swallowed hair, bones, and all. Several hours after the meal the indigestible parts are thrown up in the form of pellets. It is largely by a study of these pellets that we learn the character of the owl's food. With the exception of the great horned owl, which is the worst bird enemy of the poultry yard and of wild game birds, the owls are good birds and are worthy of careful protection. Rats, mice, chipmunks, gophers, skunks, rabbits, and other small rodents, fish, insects, and occasionally other birds form the bill of fare. Our little red owl is especially fond of mice and will even attack a large rat. In the summer time he eats large numbers of injurious insects. Reports from various observers show that, in our cities and towns, the screech owl has made the acquaintance of the English sparrow, greatly to the sorrow of the sparrow.

Like the jays and some of the woodpeckers, the owls, in a time of plenty, lay up stores for the future. In their nests, especially in winter and during the nesting season, may be found the bodies of mice and other small animals.

The following statement is quoted from *Forest and Stream* by Major Bendire.

In a nest of the great horned owl containing two young owls, were found the following animals: "a mouse, a young muskrat, two eels, four bullheads, a woodcock, four ruffed grouse, one rabbit, and eleven rats. The food taken out of the nest weighed almost 18 pounds. A curious fact connected with these captives was that the heads were eaten off, the bodies being untouched."

The Veery (*Hylocichla fuscescens*)

By John H. Wallace, Jr.

Length: 7½ inches.

Range: Eastern United States to the plains, north to Manitoba, Ont., and Newfoundland.

Nest: On or near the ground; eggs, 3 to 5.

Long known as Wilson's Thrush.

The name "Veery," by which this bird is known is evidently an imitation of one of its rolling notes.

The Veery is the commonest of the genus in the greater part of eastern North America. It inhabits every piece of wet woodland and wooded swamp. It is shy, like all of its kind, but may often be seen feeding in the paths of shaded roads, running and pulling up in the manner of Robins. Its feed consists of insects, small snails, and berries. The song of the Veery is less fine than that of either the Wood Thrush or the Hermit, but it has a peculiar charm. It consists of a series of ringing phrases, each lower in the scale than the preceding, and resembling somewhat the syllables *vee-u-ry, vee-u-ry, vee-u-ry;* the last notes often ring with a fine metallic quaver. The gloom of the woods, the general quiet, and the invisibility of the singer, all heighten the charm of the performance. The ordinary call of the Veery is a harsh *pheu,* which is modified to various melancholy or angry tones. The arrival of the Veery in early May is not heralded by its song. It is often a week after its arrival before it sings. The nest is placed on or near the ground, in some moist or swampy woodland, and is composed of grasses, leaves, and bits of bark, lined within with roots and fine grass. The Veeries, like the Wood Thrushes, cease to sing in July, and are rarely seen after the middle of August. They winter beyond the limits of the United States.

One day in June my son invited me for a walk. He said I would need my boots. He took me to a swamp at the farther part of the farm. He parted the dense thicket of bushes at the border and we looked into what seemed more like a grotto than like a swamp. Soft maple trees grew up, each out of its own knoll, from a watery floor. My son assisted me to leap from knoll to knoll till we were within the beautiful place—so roomy, yet so shady; so cool and so sweet—and that was the Vera-bird's home.

Then I invited my son to go with me for a twilight visit to another swamp that also had its pair of Tawney Thrushes. Low on the slope that led to the swamp was a certain scrubby tree that I knew the bird had chosen as a favorite place for singing. We waited under the tree and when the twilight deepened and other birds were still the Vera came and sang a few stanzas of his good-night song—not grand and soaring like the Wood Thrush's song, but most sweet, and so tremulous that it seemed to rain down upon us and about us like a gentle shower of melody.

WILSON'S THRUSH.
Turdus fuscescens.

The Warblers

By Sarah V. Prueser

Would you know these nervous little creatures that people our tree tops, then take your field glass and go into the moist woods and thickets. Do not expect to hear warbling songs, for notwithstanding the name warbler, the warblers do not warble. The songs of the most of them are weak, wiry, high-pitched sounds, rapidly repeated.

There are three score and ten warblers in the United States, but less than half that number visit the central states. Only a few of these are summer residents, the major part of them going north to breed and returning south in August and September, when the woods abound with their lisping notes. The last half of May is probably the best time to observe the warblers. The transient visitors, often arriving before the trees are in full foliage, tarry long enough to make their identity possible. The warblers are among our smallest birds, only a few species measuring more than six inches in length.

With but few exceptions the warblers inhabit the thick wood, living chiefly in the upper branches of the trees and feeding on the myriads of small insects infesting tree life. Few people learn to know the warblers as they have neither the time nor the inclination to remain in the woods long enough to make sure of their identity. However, there are a few species that every man and child may know. Of these the yellow warbler is the commonest and the best known in most localities, for he will come to your gardens and orchards, and to your vines and shrubbery. Don't call him a wild canary, though he does wear a canary-colored suit—he is the summer yellow bird or yellow warbler. If you are a careful observer you'll see the olive green in the black and brown streaks on the breast of what is otherwise a yellow bird. The male and female are much alike, both wearing yellow. They flit about like ripened leaves driven about by an unruly wind.

Last year the yellow warblers were here, latitude 41 degrees north, by May 11th and in a week many of them had their nests built. Near the edge of town, in trees and shrubbery along a ravine, I found four of their nests, all of which were hung less than six feet from the ground. A blackberry vine, a willow tree, an elm shrub, and a small horse chestnut bush, each held a flaxen pouch. These silvery-gray pouches were artistically woven from fine plant fiber and lined with down and fine hair. The nests were beautiful, as beautiful as the birds themselves. No sooner had the nests been made, when that imposter, the cowbird, began her intrusions. In each nest, among the bluish white eggs mottled with brown, a cowbird had deposited her egg, which was twice the size of the warbler's egg. I was interested to know what would happen. In one of the nests, the cowbird's egg was left undisturbed, in another the warbler cleverly built another story over the bottom of the nest, thus concealing and burying it. The yellow warbler

often builds a nest of several stories in order that she may get rid of the unwelcome eggs laid in her nest.

The nest in the elm shrub fared the worst, for in this nest the cowbird had deposited two eggs among the four warbler's eggs, making six eggs to be brooded over. Two weeks later my patient waiting was rewarded by seeing a nest filled with four young warblers and two big cowbirds. What a family for the little parents to feed! On the morning of the fourth day after hatching, I visited the nest and found that two of the warblers were missing. Who was responsible for their tragic fate? While I was thinking of some possible cause of their disappearance, my eyes were attracted to some flies at work on something near my feet. There lay the warblers—dead. There was but one solution to this tragedy; the little birds, having starved to death, were carried from the nest and dropped to the earth. The cowbirds, their flaming red mouths wide open, had taken the food which rightly belonged to the young warblers.

Some day in May, you may see a pair of black and white-streaked birds creeping around the tree trunks very much like the nuthatches do. They are not nuthatches but black and white warblers, helping themselves to a meal of insect food. Listen to the song—a weak, wiry, "zee, zee, zee," he calls as he plants himself against the trunk of another tree. The black and white warbler builds her nests on the ground, in which she lays four or five small white eggs, speckled with cinnamon brown on the larger end. This warbler is easily identified; a black and white streaked back, a black throat, a light breast heavily streaked with black are the marks by which you may know him. Then, too, he is smaller than the woodpeckers and brown creepers.

You must not miss seeing our summer resident warbler—the American redstart, brilliant and flaming. If you chance upon a pair of birds flitting from tree to tree, catching insects on the wing, dressed in black and salmon, you may be quite sure that they are redstarts. The head, back, the upper wing and middle tail feathers of the male are black basal, half of wing feathers, sides of breast and flanks, rich salmon. The female is less gorgeous in her attire, the salmon of the male being replaced by a dull yellow, and the back is somewhat grayish. I like the redstart's song, perhaps because it is so genuinely rich and jolly. Moist woods, May flowers, grass grown brooks, these are the proper stage setting for the redstarts, which is very much of a tropical bird. The nest usually placed in a small tree or sapling, six to twenty feet from the ground, is built of strips of bark, rootlets and lined with fine tendrils and down. Sometimes the redstart is taken for the Blackburnian warbler. The latter has orange not salmon in his plumage. The orange in the center of the black crown, and the conspicuous white feathers in the tail, are characteristic markings that help you to know the Blackburnian from his cousin the redstart.

If you should happen upon a bird in your orchard, wearing a black mask and a yellow vest, call him the Maryland yellowthroat. His home is in the thickets,

but he often frequents the orchards and vines near by, to feast upon the insects feeding there. He is such a restless, little body, skipping nervously from one retreat to another, making it hard for you to follow him. But listen to that outburst of song "witch-ee-tee, witch-ee-tee," he sings to his mate, then retreats to the thicket. The female does not wear the black mask. Her plumage is more subdued in color: Back, olive green; breast, grayish, white underneath; sides, yellowish. The yellowthroat, unlike most warblers, builds on or near the ground. The nest is made of strips of bark, dry leaves and grasses, the interior being lined with fine grasses. Her nest, like that of the yellow warbler's, is often invaded by the cowbird, who intrudes her eggs into the nest of the helpless victim. Instead of evicting the egg, the yellowthroat hatches the egg and cares for the young imposter, though her own little ones may be starving.

The myrtle warbler occasionally spends the winter here. You may know him by his strong, forcible call note, "tchip," the yellow patch on his crown, the yellow under parts, and the yellow patches on rump and wings. Myrtle warblers go north to nest. They are often seen in their migrations, tarrying a few days in the central states, as they journey northward.

In the Field Columbian Museum, Chicago, the state of Illinois has a good exhibit of birds; among them are the warblers that are native to that state. Most of the species are also found in Ohio and Indiana. These mounted specimens will be of help to you in identifying the live birds of your own locality. The National Museum, Washington, D. C., has a collection of birds, their eggs and nests, that are well worth seeing. But learn to name the birds without a gun, for "A bird in the bush is worth two in the hand."

It is interesting to note the various warblers that may be found along a certain parallel of latitude. In this latitude—41 degrees north—I have never found the Pine warbler as a summer resident, but in Colorado, he sang to me on a hot August day from the stunted pines and quaking asp on Prospect Hill. However, he may have been already journeying southward. In the latitude of Boston, he is a common summer resident, while at Washington he is an uncommon summer resident.

The Robin

By Celia Thaxter

In the elm tree sat the robin bright,
Through the rainy April day,
And he caroled clear with pure delight,
In the face of the sky so gray.
And the silver rain through the blossoms dropped,
And fell on the robin's coat
And his brave red breast, but he never stopped
Piping his cheerful note.

The Red-Eyed Vireo (*Vireosylva olivacea*)

By Herman C. DeGroat

Length: 6 inches.

Range: Eastern N. A., west to Colorado, Utah and British Columbia; nest, on branches of trees, 5 to 25 feet up; eggs, three or four.

Food: Insects, berries, wild fruits.

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

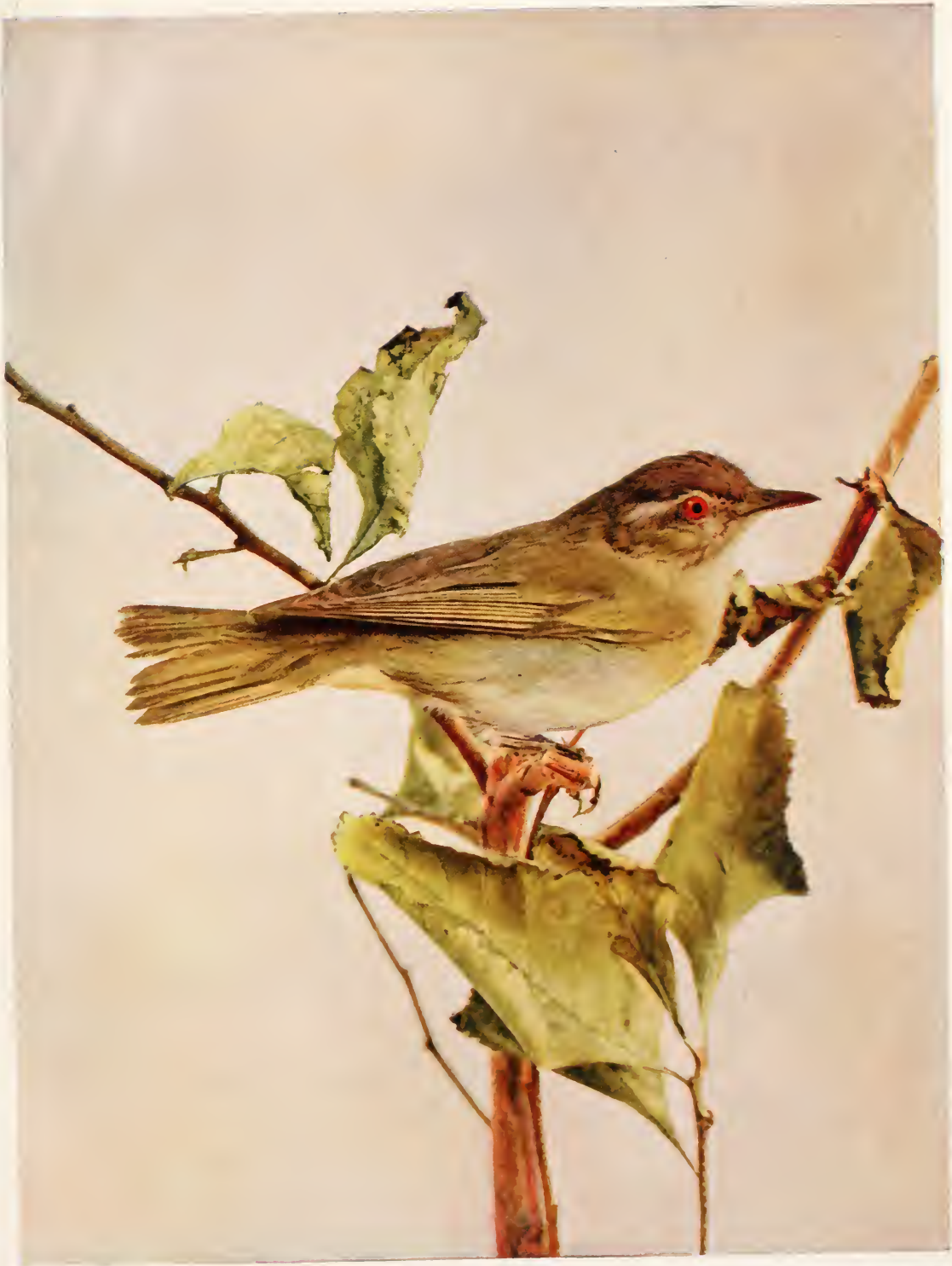
They are strictly insectivorous in their habits and, therefore, very helpful. Throughout the entire day they search for insects and caterpillars on leaf and twig and limb of every kind of tree found in lawns, orchards and forests.

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

On the rim of a little ravine, where a brook ran through a corner of the forest, a pair of twin trees stood just far enough apart to give a seat between them. Sitting there, a bush or two close by, the birds appeared not to know me but as a part of nature.

Near this seat was a maple which, with a bit of territory about it, was the home of a pair of Red-eyed Vireos. Every year, spring after spring, she made her nest in a certain fork at the tip of a low branch; every year, in May and June, the father bird guarded the little space about it. He was glad whenever the Wood Pewee came across his boundary; for then he could display his valor—and all the time how he would sing!

The first thing the mother did about her nest was to wind the twigs at the base of the fork with spider's web till soft and fluffy. Next came the bridge across the open side of the fork. Back and forth moved the little head as she passed the silken stuff; fastening it each time with her saliva to the fluffy web on the twig. The web for two drooping hammocks must be gathered, and hung in such a way as to cross each other—a day's work in each hammock. Then, comparatively, the rest was soon done—the web in the hammocks spread; the soft inner bark of grape-vine added; the whole molded into shape by turning



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

her body round and round within it; glued into parchment with her saliva; and there it hung, a tiny cup that might be mistaken for the nest of a hornet.

But that was not quite the end; this particular Vireo wrought a row of embroidery around the middle of every cup she made. The embroidery was always the same. As she wrought once she wrought again.

The Utility of Birds in Nature

By Edward Howe Forbush

There is no subject in the field of natural science that is of greater interest than the important position that the living bird occupies in the great plan of organic nature.

The food relations of birds are so complicated and have such a far-reaching effect upon other forms of life that the mind of man may never be able to fully trace and grasp them. The migrations of birds are so vast and widespread that the movements of many species are still more or less shrouded in mystery. We do not yet know, for instance, just where certain common birds pass some of the winter months. Some species sweep in their annual flights from Arctic America to the plains of Patagonia, coursing the entire length of the habitable portion of a hemisphere. Many of the birds that summer in northern or temperate America winter in or near the tropics. Some species remain in the colder or temperate regions only long enough to mate, nest and rear their young, and then start on their long journey toward the equator.

The annual earth-wide sweep of the tide of bird life from zone to zone renders the study of the relations of birds to other living forms throughout their range a task of the utmost magnitude. This vast migration at once suggests the question, Of what use in nature is this host of winged creatures that with the changing seasons sweep over land and sea?

Our first concern in answering this question is to determine what particular office or function in the economy of nature birds alone are fitted to perform. The relations they may bear to the unnatural and semi-artificial conditions produced by the agriculturist may then be better understood. The position occupied by birds among forces of nature is unique in one respect at least; their structure fits them to perform the office of a swiftly moving force of police, large bodies of which can be assembled at once to correct disturbances caused by abnormal outbreaks of plant or animal life. This function is well performed. A swarm of locusts appears, and birds of many species congregate to feed upon locusts. An eruption of field mice, lemmings or gophers occurs, and birds of prey gather to feast from far and near.

This habit of birds is also serviceable in clearing the earth of decaying materials, which otherwise might pollute both air and water. A great slaughter

of animals takes place and eagles, vultures, crows and other scavengers hasten to tear the flesh from the carcasses. A dead sea monster is cast upon the shore, and sea birds promptly assemble to devour its wasting tissues. The gathering of birds to feed is commonly observed in the flocking of crows in meadows where grasshoppers or grubs abound, the assembling of crows and blackbirds in cornfields, and in the massing of shore birds on flats or marshes where the receding tide exposes their food.

A study of the structure and habits of birds shows how well fitted they are to check excessive multiplication of injurious creatures or to remove offensive material. Birds are distinguished from all other animals by their complex feathered wings—the organs of perfect flight.

Birds are provided with wings to enable them (1) to procure food, (2) to escape their enemies, (3) to migrate.

Birds are pursued by many enemies. Water fowl fly to the water and dive to escape the hawk or eagle, and fly to land to escape the shark, alligator or pike. Sparrows fly to the thicket to elude the hawk, and to the trees to avoid the cat. Evidently this great power of flight was given birds to enable them not only to concentrate their forces rapidly at a given point, but also to pursue other flying creatures. Birds can pursue bats, flying squirrels, flying fish and insects through the air. Bats and insects are their only competitors in flight. Comparatively few insects can escape birds by flight, and this they do mainly by quick dodging and turning. The speed at which birds can fly on occasion has seldom been accurately measured. The maximum flight velocity of certain wild fowl is said to be ninety miles an hour. Passenger pigeons killed in the neighborhood of New York have had in their crops rice probably taken from the fields of the Carolinas and Georgia, which indicates that within six hours they had flown the three or four hundred miles intervening at about the rate of a mile a minute.

The rate of flight of a species must be sufficiently rapid to enable it to exist, and so perform its part in the economy of nature.

Birds find distant food by the senses of sight and hearing mainly. The sense of smell is not highly developed, but the other perceptive powers are remarkable. The perfection of sight in birds is almost incomprehensible to those who have not studied the organs of vision. The keen eye of the hawk has become proverbial. The perfection of sight in birds is almost incomprehensible to those who have not the eyes of other vertebrates. It is provided with an organ called the pecten, by which, so naturalists believe, the focus can be changed in an instant, so that the bird becomes near-sighted or far-sighted at need. Such provision for changing the focus of the eye is indispensable to certain birds in their quick rush upon their prey. Thus the osprey, or fish-hawk, flying over an arm of the sea, marks its quarry down in the dark water. As the bird plunges swiftly through the air its eye is kept constantly focused on the fish, and when within striking distance it can still see clearly its panic-stricken prey. Were a man to descend so suddenly

from such a hight he would lose sight of the fish before he reached the water. The flycatcher sitting erect upon its perch watching passing insects that are often invisible to the human eye, in like manner utilizes the pecten in the perception, pursuit and capture of its prey. Most of the smaller birds will see a hawk in the sky before it becomes visible to the human eye. The vulture, floating on wide wings in upper air, discerns his chosen food in the valley far below; as he descends toward it he is seen by others wheeling in the distant sky. As they turn to follow him they are also seen by others soaring at greater distances, who, following, are pursued afar by others still, until a feathered host concenters from the sky upon the carrion feast.

They surpass all other vertebrate animals in breathing power or lung capacity, as well as in muscular strength and activity. The temperature of the blood is higher in birds than in other animals, and the circulation is more rapid. To maintain this high temperature, rapid circulation and great activity a large mount of food is absolutely necessary. Food is the fuel without which the brightly burning fires of life must grow dim and die away. Birds are, therefore, fitted for their function of aerial police, not only by their powers of flight and perception, but also by their enormous capacity for assimilating food. When food is plentiful birds gorge themselves, accumulating fat in quantities. Shore birds frequently become so fat during the fall migrations that, when shot, their distended skins burst open when their bodies strike the ground. This accumulation of fatty tissue may aid to tide the birds over a season of scarcity, but the moment they need food they must seek it far and wide, if need be, as they cannot live long without it.

Certain moths deposit hundreds of eggs in a season, and were each egg to hatch and each insect come to maturity and go on producing young at the same rate, the entire earth in a few years would be carpeted with crawling caterpillars, and the moths in flight would cover the earth like a blanket of fog. But under natural conditions the caterpillars that hatch from the eggs of the moth are destroyed by birds, mammals, insects or other animals, by disease or the action of the elements, so that in the end only one pair of moths succeeds another. If every robin should produce five young each year, and each robin should live fifteen years, in time every square foot of land on this continent would be packed with robins, but the surplus robins are killed and eaten by various other birds or by mammals, each striving to maintain itself; so that, eventually, the number of robins remains about the same.

Thus we see that while birds, insects, other animals and plants are constantly striving to increase their numbers, the creatures that feed upon them operate continually to check this undue multiplication. The hawk preys upon the smaller birds and mammals. The smaller birds and mammals feed on insects, grass seeds, leaves and other animal and vegetable food, each virtually endeavoring to gain strength and increase the numbers of its race at the expense of other living organisms.

Birds are guided by their natural tastes in selecting their food, unless driven by necessity. Of the food which suits their tastes that which is most easily taken is usually first selected. In the main, species of similar structure and habits often choose similar food, but each species usually differs from its allies in the selection of some certain favorite insects. Were a species exterminated, however, its place might be taken eventually by the combined action of many species, for nature always operates to restore her disturbed balances.

The complexity of the food relations existing between birds and other organisms may be indicated hypothetically by a brief illustration. The eagles, larger hawks and owls feed to some extent on crows, and probably the nocturnal, tree-climbing, nest-hunting raccoon also robs them of eggs and young; otherwise, they seem to have very few natural enemies to check their increase. Crows feed on so many different forms of animal and vegetable life that they are nearly always able to find suitable food; therefore they are common and widely distributed.

There are compensations in the apparently destructive career of the crow. An omnivorous bird, it seems inclined to turn its attention to any food which is plentiful and readily obtained. It is a great feeder on May beetles (miscalled "June bugs"), the larvæ of which, known as white grubs, burrowing in the ground, sometimes devastate grass lands and also injure the roots of many plants, including trees.

The crow is also a destroyer of cutworms. These are the young of larvæ of such noctuid moths or "millers" as are commonly seen fluttering from the grass by any one who disturbs them by walking in the fields. Robins also feed largely on cutworms, as well as on the white grub of the May beetle. When these insects are few in number, a part of the usual food supply of both robin and crow is cut off. This being the case, the hungry crows are likely to destroy more young robins and other young birds than usual, in order to make up the supply of animal food for themselves and their ravenous nestlings. In a few years this would decrease perceptibly the number of robins and other small birds, and would be likely in return to allow an increase of May beetles and cutworms. As the insects become more plentiful the crows would naturally turn again to them, paying less attention to the young of robins and other birds for the time, and allowing them to increase once more, until their multiplication put a check on the insects, when the crows would of necessity again raid the robins.

The blue jay may be taken as another instance of this means of preserving the balance of nature. Hawks and owls kill blue jays, crows destroy their eggs and young; thus the jays are kept in check. Jays are omnivorous feeders. They eat the eggs and young of other birds, particularly those of warblers, titmice and vireos—birds which are active caterpillar hunters. But jays are also extremely efficient caterpillar hunters. Thus the jays compensate in some measure for their destruction of caterpillar-eating birds. Like the crow, they

virtually kill the young of the smaller birds and eat them that they (the jays) may eventually have more insect food for their own young. When this object has been attained the jays again, perhaps, allow an increase of the smaller birds, the survivors of which they have unwittingly furnished with more insect food, thus making conditions favorable for the increase of the smaller birds.

It is a law of nature that the destroyer is also the protector. Birds of prey save the species on which they prey from overproduction and consequent starvation. They also serve such species in at least two other ways: (1) The more powerful bird enemies of a certain bird usually prey upon some of its weaker enemies; (2) these powerful birds also check the propagation of weakness, disease or unfitness by killing off the weaker or most unfit individuals among the species on which they prey, for these are most easily captured and killed.

We have already seen that jays, which are enemies of the smaller birds, are preyed upon by the more powerful crows, hawks and owls. These latter also destroy skunks, weasels, squirrels, mice and snakes, all of which are enemies of the smaller birds. No doubt these animals would be much more injurious to the smaller birds were they without these wholesome feathered checks on their increase.

Birds are quick to assemble wherever in the woods the disappearing foliage denotes the presence of great numbers of destructive caterpillars, or where patches of dead and dying grass indicate that grubs are destroying the grass roots on meadow or prairie. Birds flock to such places to feed on easily procured insects, and to take a prominent part in repressing such insect outbreaks. This is so well known as to be worthy of only passing mention here, were it not to inquire whether the birds that assemble in such localities do not neglect their normal and special work of holding in check certain species elsewhere. If the robin, for example, which feeds normally on such ground-frequenting insects as white grubs, cutworms, grasshoppers, March flies and ground beetles, goes into the woods to feed on caterpillars, as is sometimes the case, does it neglect to devour any one of the insects on which it usually feeds, and so give this insect a chance to increase? If so, it would be merely suppressing one outbreak and permitting another. But birds do not neglect any one element of their ordinary food in such cases. They neglect them all, both animal and vegetable, for the time being, and turn to the now abundant insect food that is more readily accessible. This I have observed in studying outbreaks of cankerworms, and Professor Forbes records a similar experience with birds feeding on cankerworms.

Evidently in such cases the birds, changing their usual fare entirely for the time being, remove their restraining influence from both useful and injurious insects, leaving one to exert its full force as a check on the other until the urgent business of the serious outbreak of grasshoppers, caterpillars or some other pest has been attended to; then the birds return to their usual haunts and food, and exert the same repressive influence as before.

Birds also play a great part in the distribution of plants, the upbuilding and fertilizing of barren islands, and a minor part in the distribution of insects. Wild fowl and herons may sometimes carry small seeds for many miles embedded in particles of mud which adhere to their feet. The part taken by birds in forest planting and fertilizing barren lands will be taken up farther on, in connection with their relations to forestry and agriculture.

Taken all in all, the relations of birds to the natural world are beneficent. Evidently birds are an essential part of nature's great plan. This being the case, they must be serviceable to man also, for man, the animal, is a mere integral part of nature.

The Blue-Winged Warbler (*Vermivora pinus*)

By W. Leon Dawson

Length: 4½ inches.

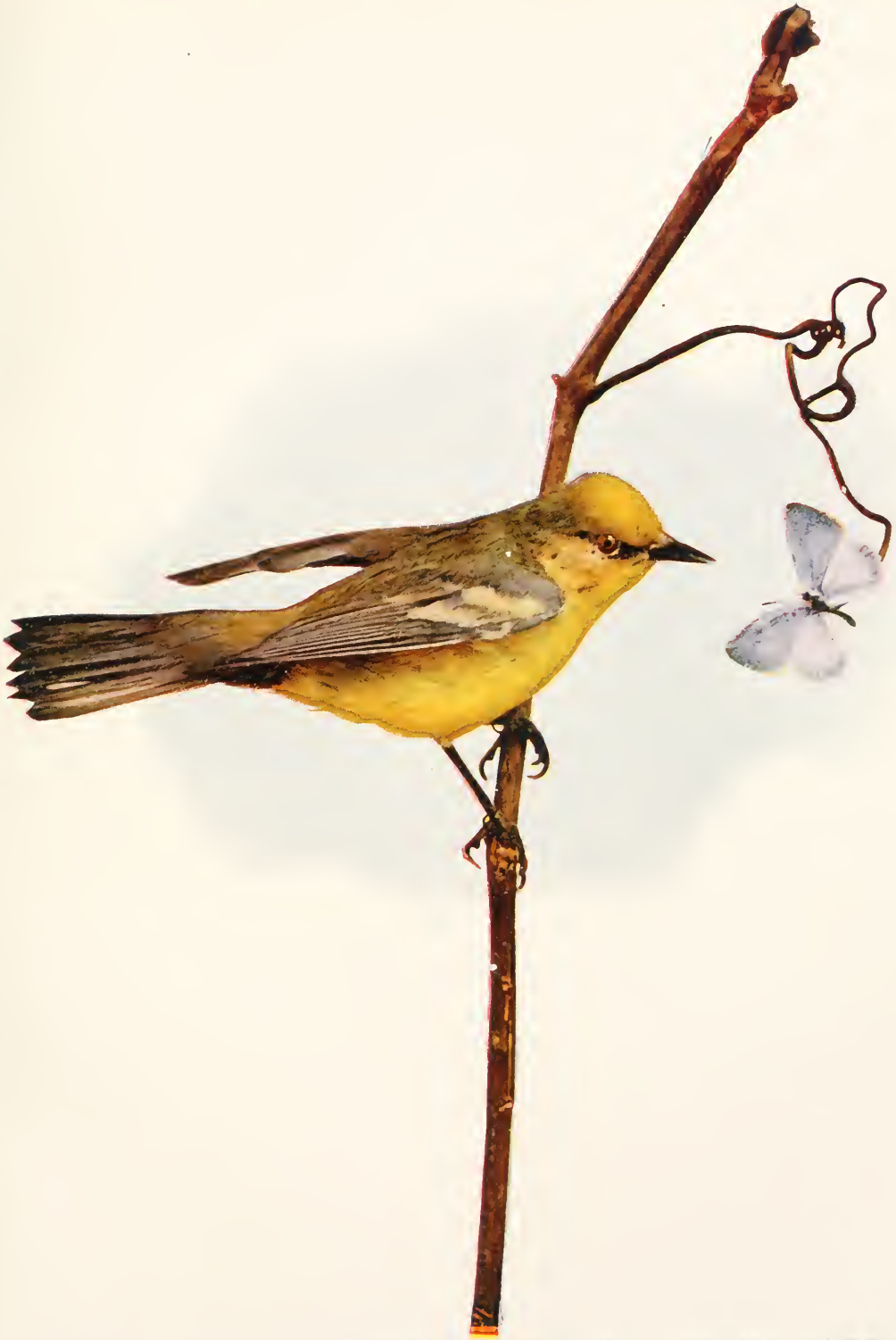
Range: Eastern United States from Southern New York, Southern New England, and Southern Minnesota southward, west of Texas, and Nebraska.

Nest: On the ground; eggs, 4 or 5.

Although appearing in our latitude as early as May 1, the Blue-winged Yellow Warbler seems to bring summer with it. This is partly because its bright plumage suggests the fullest measure of sunshine, but more because its drowsy, droning song better befits the midsummer hush than it does the strife of tongues which marks the May migrations. Swe-e-e-e-zze-e-e-e the bird says, and it is as if the Cicada had spoken. The last syllable especially has a vibrant clicking quality like the beating of insect wings.

Like most warblers this bird makes nice discriminations in the choice of its summer home. If one knows exactly what sort of cover to look for it is not difficult to locate a Blue-wing, but one might ransack a township at haphazard and find never a one. Low, moist clearings which have been allowed to fill up again with spicebush, witch-hazel, and saplings are favorite places, especially if here and there a larger tree has been spared, from which the singing warbler may obtain at will a commanding view. When suited to a "t" the bird will buzz into the late hours of the morning, when other songsters are silent.

Active and sprightly in habit, in spite of its tranquilizing song, the Blue-wing is seen to best advantage when nest-hunting or nest-building. Selecting a promising spot, the bird will approach it by degrees, first droppng down some sapling ladder, rung by rung, until the lowest branch is reached; thence flitting to the top of a bush-clump, and descending in like manner to the ground. Here diligent inspection is made about the roots of the bush, the leaf supply, drainage, and cover being duly considered. If the outlook is promising the mate is summoned and the situation reconsidered.



BLUE WINGED YELLOW WARBLER.
Life size.

The nest is placed upon the ground or upon the trash which covers it, and is usually so surrounded by descending stems as to be well hidden and quite secure. It is made out of rather coarse material, principally grapevine bark and dead leaves—bulky and deep, with ragged or indefinite edges, and often boasting nothing better than finely shredded bark for lining. The female is a close sitter and may not infrequently be taken by the hand.

In June, 1902, I found a typical Chat's nest placed four feet high in blackberry vines, but which contained three tiny eggs of uniform size, quite like those of the Blue-winged Yellow Warbler. In response to my "screep" of inquiry a Blue-wing promptly appeared, not once only, but twice, and scolded me roundly; while a Chat joined in at twice the distance. I was thoroughly puzzled, baffled; it was impossible to tell from the appearances which bird owned the eggs. Moreover my time was short. "When in doubt, take the nest." The set is now in the Oberlin College collection, but we shall never know whether to label it "Chat" or "Blue-wing."

A Few of the Bird Family

By James Whitcomb Riley

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

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

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

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

Black Tern (*Hydrochelidon nigra surinamensis.*)

Length, 10 inches. In autumn occurs as a migrant on the east coast of the United States, and then is in white and gray plumage. During the breeding season it is confined to the interior, is chiefly black, and is the only dark tern occurring inland.

Range: Breeds from California, Colorado, Missouri, and Ohio, north to central Canada; winters from Mexico to South America; migrant in the eastern United States.

Habits and economic status: This tern, unlike most of its relatives, passes much of its life on fresh-water lakes and marshes of the interior. Its nests are placed among the tules and weeds, on floating vegetation, or on muskrat houses. It lays from 2 to 4 eggs. Its food is more varied than that of any other tern. So far as known it preys upon no food fishes, but feeds extensively upon such enemies of fish as dragonfly nymphs, fish-eating beetles, and crawfishes. Unlike most of its family, it devours a great variety of insects, many of which it catches as it flies. Dragonflies, May flies, grasshoppers, predaceous diving beetles, scarabæid beetles, leaf beetles, gnats, and other flies are the principal kinds preyed upon. Fishes of little economic value, chiefly minnows and mummichogs, were found to compose only a little more than 19 per cent of the contents of 145 stomachs. The great consumption of insects by the black tern places it among the beneficial species worthy of protection.

Bullock's Oriole (*Icterus bullocki.*)

Length, about 8 inches. Our only oriole with top of head and throat black and cheeks orange.

Range: Breeds from South Dakota, Nebraska, and Kansas to the Pacific Ocean and from southern Canada to northern Mexico; winters in Mexico.

Habits and economic status: In the West this bird takes the place occupied in the East by the Baltimore oriole. In food, nesting habits, and song the birds are similar. Both are migratory and remain on their summer range only some five or six months. They take kindly to orchards, gardens, and the vicinity of farm buildings and often live in villages and city parks. Their diet is largely made up of insects that infest orchards and gardens. When fruit trees are in bloom they are constantly busy among the blossoms and save many of them from destruction. In the food of Bullock's oriole beetles amount to 35 per cent and nearly all are harmful. Many of these are weevils, some of which live upon acorns and other nuts. Ants and wasps amount to 15 per cent of the diet. The black olive scale was found in 45 of the 162 stomachs examined. Caterpillars, with a few moths and pupæ, are the largest item of food and amount to over 41 per cent. Among these were codling-moth larvæ. The vegetable food is practically all fruit (19 per cent) and in cherry season consists largely of that fruit. Eating small fruits is the bird's worst trait, but it will do harm in this way only when very numerous.

Economic Value of Birds

By Frank M. Chapman

The bird is the property of the State. From this fundamental conception of the bird's legal status there can be no logical ground for dissent. If a certain species of bird is conclusively proven to be injurious to the agricultural or other interests of the State, no one would deny the State's right to destroy that species. If, on the contrary, a species is shown to be beneficial, then the State has an equal right to protect it. Indeed, we may go further and say it is not only the right, but the duty of the State, to give to its birds the treatment they deserve. Here is the great Commonwealth of New York with agricultural and forestry industries which annually yield products valued at $266,000,000. In the closest relation to the welfare of these industries stands a group of animals represented by some 350 species and millions of individuals. Obviously, then, it is the first duty of the State to learn definitely in what way or ways the presence of these incalculably abundant creatures affects its crops and forests.

If they are harmful how are they to be destroyed? If they are valuable how are they to be preserved? In short, the State should take all necessary steps to appraise its vast possessions in bird-life.

The government at Washington realizes the importance of this subject and in 1886 it established, in the Department of Agriculture, a Division of Economic Ornithology and Mammology, with the object of learning accurately the economic relations of birds and mammals to man. Illinois, Wisconsin, Nebraska, Pennsylvania, Massachusetts and New Hampshire, among the States, have made investigations with the same end in view. Now the South is awakening to the vital importance of this practical side of natural history research. At the Annual Session of the Texas Farmers' Congress, held at College Station, Texas, July 17, 1902, Professor H. P. Attwater, a prominent ornithologist in the State, was invited to make an address on "The Relation of Birds to the Farmer." In commenting on this address *The State*, a newspaper of Meridian, Miss., says: "Bird protection is going to be made an economic issue in every Southern State before many days, and the army of sentimental advocates will be reinforced by the utilitarians, who, while caring nothing for the beauty of the feathered songster or the music he makes, are very much alive to his usefulness in exterminating insects that kill crops, and are determined to stay the hand of the snarer and wanton bird-killer before it is too late and the insects have taken possession of the land. * * * Wherever common sense prevails this cause will find advocates, and *The State* would like to see Bird Protection made an issue in Mississippi politics."

No "issue," however, can be successfully promoted unless the facts involved rest on the firm, incontrovertible foundation established by exact research. The Forest, Fish and Game Commission of New York State, in calling the attention of the citizens of the State to the economic importance of birds, desires to pre-

sent, therefore, the results of the investigations of economic ornithologists into the food habits of our birds. But before giving in detail the studies of these specialists it will be well to outline in a general way how birds may be valuable or injurious to man.

Birds are of value to the State chiefly through the services they render in (1) eating harmful insects, their eggs and larvæ; (2) in eating the seeds of noxious weeds; (3) in devouring field mice and other small mammals which injure crops; (4) in acting as scavengers. The appended outline of the bird's relation to the forester, fruit-grower, farmer, and citizen will enable us to appreciate its economic importance.

The agriculturist, in producing an artificial condition in the plant world, creates also an unnatural state of affairs among the insects that find a new food in the outcome of his husbandry and among the birds that prey upon these insects. But between birds and forests there exist what may be termed primeval, economic relations. Certain forest trees have their natural insect foes to which they furnish food and shelter; and these insects, in turn, have their natural enemies among the birds to which the trees also give a home. Here, then, we have an undisturbed set of economic relations: (1) the tree; (2) the insect which lives in the tree, preys upon it, and may assist in the fertilization of its blossoms; (3) the bird which also finds a home in the tree and, feeding upon insects, prevents their undue increase. Hence, it follows that the existence of each one of these forms of life is dependent upon the existence of the other. Birds are not only essential to the welfare of the tree, but the tree is necessary to the life of the bird. Consequently, there has been established what is termed "a balance of life" wherein there is the most delicate adjustment between the tree, the insect, the bird and the sum total of the conditions which go to make up their environment. The more trees, the greater the number of insects, and, hence, an increase not only in food supply for the birds, but an increase in the number of nesting-sites.

Destroy the trees and the insect finds new food in the crops of the farmer, but the birds, although food is still abundant, lose their home when the tree falls, and, lacking the nesting-sites and protection from their enemies once found in its spreading branches, they soon perish.

What we may call artificial forest conditions are to be found in parks, squares, village streets, and in our gardens. Here forest trees may find a suitable soil, but birds are often less abundant in such localities than in the forest, and consequently the trees growing in them are notably less healthy than forest trees. It is in these semi-domesticated trees that a scourge of injurious insects most often occurs, occasionally to be followed by a marked increase of their bird enemies, which are attracted by the unusual abundance of food. Caroline G. Soule writes:

"Last year, at Brandon, Vermont, the tent-caterpillars were so abundant as to be a serious injury and annoyance. They lay in close rows, making wide

bands on the tree trunks. They spun down from the upper branches and fell upon the unfortunate passers-by. They crawled through the grass in such numbers that it seemed to move in a mass as one looked down upon it. Under these circumstances, birds might be expected to do strange things—and they did.

"The pair of Downy Woodpeckers which lived near us were frequently seen on the ground picking up the crawling tent-caterpillars. They seemed to prefer taking them from the ground to taking them from the trees, though there were more on the tree-trunks than on the ground even. And the Woodpeckers seemed to have no difficulty in moving on the ground, though they moved more slowly than when dodging around a tree.

"Two mountain-ash trees on the place were infested by borers, though only slightly and only near the ground, and at the foot of one of these trees the Downy Woodpeckers made many a stand, while they probed the borer-holes with their bills.

"The Cuckoos came boldly into the village and fed and fed, flying about quite openly. The Nuthatches flew to a band of caterpillars on a tree-trunk, and were so busy and absorbed in devouring the crawlers that I could put my hand on them before they started to fly, and then they merely flew to another tree close by, and attacked another mass of caterpillars.

"Blackbirds waddled over the grass by the sides of the streets picking up the crawlers, and even a Woodcock spent several hours in the garden and on the lawn, *apparently* feasting on tent-caterpillars, but I could not get near enough to be sure.

"The Vireos—White-eyed, Red-eyed and Warbling—the Cat-birds, Cedar-birds, and Rose-breasted Grosbeaks did good service to the trees and human beings, but the most evident destruction was done by the Chipping Sparrows when the moths emerged late in the summer. The moths were very abundant after four o'clock in the afternoon, flying about the trees to lay their eggs, and then the Chippies became fly-catchers for the time, and flew straight, turned, twisted, dodged, and tumbled 'head over heels and heels over head' in the air, just as the course of the hunted moth made necessary. A quick snap of the beak, and four brownish wings would float down like snowflakes, and their numbers on the walks, roads and grass showed how many thousands of moths were slain. In spite of the unwonted exercise the Chippies waxed fat, but not as aldermanic as the Robins, which, earlier, gorged themselves on the caterpillars until, as one observer said, 'their little red fronts actually trailed on the ground.' "

The extent to which trees are subject to attack and their consequent need of insect destroyers may be more clearly understood if we consider for a moment the life of a tree in connection with the insects that prey upon it. Let us take, for example, the oaks of the genus *Quercus*. At the very beginning, before the

acorn has germinated, it may be entered by a grub of the nut weevil (*Balaninus*) which destroys it, and the more or less empty shell becomes the abiding place of the larva of the acorn moth. Should, however, the acorn be permitted to grow, the roots of the young tree may be attacked by the white grubs of root-boring beetles. Escaping these, the oak carpenter worm (*Prionoxystus*) lays its eggs in cracks and crevices in the bark. On hatching, the worm or borer "perforates a hole the size of a half-inch auger, or large enough to admit the little finger, and requiring three or four years for the bark to close together over it. This hole, running inward to the heart of the tree, and admitting water thereto from every shower that passes, causes a decay in the wood to commence, and the tree never regains its previous soundness." (Fitch.)

Other borers (*Buprestidae*) feed upon the bark, eating the soft inner layer and the sap, over twenty species of borers and miners being known to infest the trunk of the oak. The limbs and twigs are affected by the larvæ of certain beetles (*Cerambycidae*) which act as girdlers or pruners, sometimes severing limbs ten feet in length and over an inch in diameter. (Fitch.) The weevils also bore into the twigs, making an excavation in which the eggs are laid, and the seventeen-year locust stings the branches, making perforations from one to two feet long for the receipt of the eggs

The limbs and twigs are also affected by tree hoppers (*Membracidae*) and oak blights (*Aphididae*), which puncture them and feed upon their juices, exhausting the sap. Some ten species of scale insects, or plant-lice, are known to infest oaks, and over a hundred different species of gallflies are parasitic upon them.

Oak buds are eaten by the larvæ of certain noctuid moths, and oak leaves are injured by caterpillars, basket worms, skippers, miners, weevils, phylloxeras, galls and plant-lice of nearly one hundred and fifty species.

Altogether over 500 species of insects are known to prey upon the oak, and it is consequently obvious that if they were not in turn preyed upon, oak trees could not exist. But, thanks to the services of birds, as well as to predaceous and parasitic insects, the insectivorous foes of the oak are so held in check that, as a rule, their depredations are not attended by serious results. Remove these checks, however, and we may expect an immediate and disastrous increase in the enemies of the oak which they so successfully combat.

Without here attempting to go into detail we may at least mention one or two instances illustrative of the value of birds to trees. Weevils, borers, caterpillars, scale insects and plant-lice are all devoured by birds, but it is in eating the eggs of the enemies of the trees that birds perform a service of inestimable value. Prof. C. M. Weed, of the New Hampshire College of Agriculture, in studying the winter food of the Chickadee, has found that it feeds largely on the eggs of plant-lice. Thus the stomach of a specimen taken December 9, in a mixed growth of pines, maple, willow, and birches, was found to contain 429 eggs of plant-lice, together with insects of several species. The stomach of

another Chickadee taken February 26, in a growth of pines and birches, contained 454 eggs of Aphides, an equal percentage (44) of what seemed to be dried castings from the old nests of tent-caterpillars, spiders' eggs, and eggs of the canker-worm.

Additional statistics of the forest haunting birds' food are given under the proper head, but we should call especial attention here to the great value to trees of our Cuckoos in devouring caterpillars. Over 48 per cent of the food of Cuckoos has been found by Professor Beal, of the U. S Department of Agriculture, to consist of caterpillars, the stomach of a single individual containing the remains of 217 web-worms well known to be one of the most destructive forms of insect life to trees. These are only two illustrations among the hundreds which might be cited, of the service rendered by the birds to our forest.

Birds are of value to the forest, however, not only as the destroyers of their insect foes, but the birds with the squirrels help plant the forest by distributing seeds. The seeds which are encased in a pulpy covering, those of the berry or fruit-bearing trees, are voided unharmed by the birds often at a point far distant from the parent tree, the bird thus acting as their distributor. Acorns, beech-nuts, and chestnuts are frequently dropped or hidden by birds, and the seeds of pines are released and scattered by the birds that seek them in their cones. In short, we believe it can be clearly demonstrated that if we should lose our birds we should also lose our forests.

English Sparrow (*Passer domesticus*)

Length: About 6¼ inches.

Its incessant chattering, quarrelsome disposition, and abundance and familiarity about human habitations distinguish it from our native sparrows.

Range: Resident throughout the United States and southern Canada.

Habits and economic status: Almost universally condemned since its introduction into the United States, the English sparrow has not only held its own, but has ever increased in numbers and extended its range in spite of all opposition. Its habit of driving out or even killing more beneficial species and the defiling of buildings by its droppings and by its own unsightly structures, are serious objections to this sparrow. Moreover, in rural districts, it is destructive to grain, fruit, peas, beans, and other vegetables. On the other hand, the bird feeds to some extent on a large number of insect pests, and this fact points to the need of a new investigation of the present economic status of the species, especially as it promises to be of service in holding in check the newly introduced alfalfa weevil, which threatens the alfalfa industry in Utah and neighboring states. In cities most of the food of the English sparrow is waste material secured from the streets.

The Meadow Lark (*Sturnella magna magna*)

Alexander Wilson

Length: 10¾ inches.

Range: U. S., Southern Canada, Mexico and Costa Rica.

Food: Caterpillars, grubworms, beetles, grasshoppers, weevils, seeds and cut worms.

This species has a very extensive range. I have myself found Meadow Larks in upper Canada and in each of the states from New Hampshire to Louisiana. Mr. Bartram informs me that they are equally abundant in east Florida. They live in pastures, fields, and meadows—their fondness for the latter having given them their specific name. The meadows no doubt supply them abundantly with the seeds and insects on which they feed. They are rarely or never seen in the depths of the woods; unless, instead of underwood, the ground is covered with rich grass, as in the Choctaw and Chickasaw countries, where I met with them frequently in the months of May and June. The extensive and luxuriant prairies between Vincennes, Ind., and St. Louis, Mo., also abound with them.

It is probable that in the more rigorous regions of the North they may be birds of passage; though I have seen them among the meadows of New Jersey and those that border the Delaware and Schuylkill rivers in all seasons, even when the ground was deeply covered with snow.

I once met with a few of these birds in the month of February—during a deep snow—among the heights of the Allegheny Mountains, gleaning on the road, in company with the small Snowbirds. In South Carolina and Georgia, at the same season of the year, they swarm among the rice plantations, running about the yards and buildings, accompanied by the Killdeers, with little appearance of fear.

These birds, after the nesting season is over, collect in flocks, but seldom fly in a close, compact body; their flight is something in the manner of the Grouse and Partridge, laborious and steady, sailing, and renewing the rapid action of the wings, alternately. When they alight on trees or bushes it is generally on the tops of the highest branches, whence they send forth a long clear, and somewhat melancholy note that in sweetness and tenderness of expression is not surpassed by any of our numerous Warblers. This is sometimes followed by a kind of low, rapid chattering,—the particular call of the female; and again the clear and plaintive strain is repeated as before.

The nest of this species is built generally in, or below, a thick tuft or tussock of grass. It is composed of dry grass laid at the bottom, and wound all around, leaving an arched entrance level with the ground. The inside is lined with fine stalks of the same materials, disposed with great regularity. The eggs are four, sometimes five, white, marked with specks and several large blotches of reddish brown, chiefly at the thick end.

29

MEADOWLARK.
(Sturnella magna).

The Meadow Lark

By Ralph Bacon

Little puff of feathers,
Gray and brown and gold,
When your slim throat gathers
More than it can hold
Of the merry, mellow madness
That your heart distills,
You pour it forth in gladness
Drenching fields and hills.
Your notes come spilling golden
Like the bubbles of old wine;
I expand my heart to hold in
Your ecstasies divine!
Little feathered creature
On that zig-zag fence,
You're God's most fervent preacher;
From your eminence
You scatter bits of heaven—
If only man's heart had
Half your bird's joy ever,
The whole world would be glad!

White-Crowned Sparrow (*Zonotrichia leucophrys*)

Length: 7 inches.

The only similar sparrow, the white-throat, has a yellow spot in front of eye.

Range: Breeds in Canada, the mountains of New Mexico, Colorado, Wyoming, and Montana, and thence to the Pacific coast; winters in the southern half of the United States and in northern Mexico.

Habits and economic status: This beautiful sparrow is much more numerous in the western than in the eastern states, where, indeed, it is rather rare. In the East it is shy and retiring, but it is much bolder and more conspicuous in the far West and there often frequents gardens and parks. Like most of its family, it is a seed eater by preference, and insects comprise very little more than 7 per cent of its diet. Caterpillars are the largest item, with some beetles, a few ants and wasps, and some bugs, among which are black olive scales. The great bulk of the food, however, consists of weed seeds, which amount to 74 per cent of the whole. In California this bird is accused of eating the buds and blossoms of fruit trees, but buds or blossoms were found in only 30 out of 516 stomachs, and probably it is only under exceptional circumstances that it does any damage in this way. Evidently neither the farmer nor the fruit grower has much to fear from the white-crowned sparrow. The little fruit it eats is mostly wild, and the grain eaten is waste or volunteer.

The Yellow Warbler (*Dendroica aestiva aestiva*)

By Thomas Nuttall

Length: 5 inches.

Range: North America, except southwestern part.

Food: Insects and wild berries.

This is a lively, unsuspicious, and almost familiar little bird, and its bright golden color renders it very conspicuous as in pursuit of flitting insects it pries and darts among the blossoming shrubs and orchards. It is particularly attached to willow trees and other kinds in moist and shady situations, that afford this and other species a variety of small larvæ and caterpillars, on which they delight to feed. While incessantly and busily employed, it occasionally mounts the twig, and with a loud, shrill, and almost piercing voice it earnestly utters, at short and irregular intervals, *tsh tsh tsh tsh tshaia,* or *tshe tshe tsh tshayia tshe tshe,* this last phrase rather plaintive and interrogatory, as if expecting the recognition of its mate. Sometimes, but particularly after the commencement of incubation, a more extended and pleasing modulated song is heard, as *se te te tshishoo,* or *tsh tsh tsheetshoo, tshe tshe tshe tshoo peetshee,* and *tshe tshe tshe tshe tshaia tship o way,* the termination tender, plaintive, and solicitous. Sometimes I have heard this note varied to *soit soit soit soit tship a wee.* Although the song of these birds may be heard, less vigorously, to the month of August, yet they do not appear to raise more than a single brood; about the close of the month in the northern states they disappear, and wing their way by easy stages to their tropical destination.

The nest is commonly fixed in the forks of a barberry bush, close shrub, or sapling, a few feet from the ground. Sometimes I have known the nest placed upon the horizontal branch of a hornbeam, more than fifteen feet from the ground, or even fifty feet high in the forks of a thick sugar maple or orchard tree. These lofty situations are, however, extraordinary, and the little architects, in instances of this kind, occasionally fail in giving the usual security to their habitations. The nest is extremely neat and durable; the exterior is formed of layers of Asclepias, or silkweed lint, glutinously though slightly attached to the supporting twigs, mixed with some slender strips of fine bark and pine needles. It is thickly bedded with the down of willows, the nankeen wool of the Virginian cotton grass, the down of fern stalks, the hair from the downy seeds of the sycamore (*Platanus*), or the pappus of compound flowers; and then lined with either fine bent grass (*Agrostis*), or down, and horsehair, and rarely with a few accidental feathers. Circumstances sometimes require a variation from the usual habits of this species.

In Roxbury, near Boston, I saw a nest built in a currant bush in a small garden very near to the house; and as the branch did not present the proper site of security, a large floor of dry grass and weeds was first made betwixt it and a contiguous board fence; in the midst of this mass of extraneous materials the

YELLOW WARBLER

¾ Life-size.

small nest was excavated, then lined with a quantity of fine horsehair and finished with an interior bed of soft cowhair. The season proving wet and stormy, the nest in this novel situation fell over, but was carried, with the young, to a safe situation near the piazza of the house, where the parents now fed and reared their brood. In an apple tree in another garden a nest of this bird was made chiefly of loose white cotton strings which had been used for training up some raspberry bushes, and looked as white and conspicuous as a snowball. Sometimes they condescend to the familiarity of picking up the sweepings of the seamstress, such as thread, yarn, sewing silk, fine shreds of cotton stockings, and bits of lace and calico—and it is not uncommon to observe hasty disputes between our little architects and the Baltimore Orioles, as the latter sometimes seize and tug upon the lose or flowing ends and strings of the unfinished nest, to the great annoyance of the legitimate operators.

The labor of forming the nest seems often to devolve on the female. On the tenth of May I observed one of these industrious matrons busily engaged with her fabric in a low barberry bush, and by the evening of the second day the whole was completed, to the lining which was made, at length, of hair and willow down, of which she collected and carried mouthfuls so large that she often appeared almost like a mass of flying cotton. She far exceeded in industry her active neighbor, the Baltimore Oriole, who was also engaged in collecting the same materials. Notwithstanding this industry the completion of the nest, with this and other small birds, is sometimes strangely protracted or not immediately required. Yet occasionally I have found the eggs of this species improvidently laid on the ground. They are usually about four or five, of a dull white, thickly sprinkled near the great end with various sized specks of pale brown.

It is amusing to observe the sagacity of this little bird in disposing of the eggs of the vagrant and parasitic cow troupial. The egg, deposited before the laying of the rightful tenant, too large for ejectment, is ingeniously incarcerated in the bottom of the nest, and a new lining placed above it, so that it is never hatched to prove the dragon of the brood. Two instances of this kind were observed by my friend Mr. Charles Pickering; and once I obtained a nest with the adventitious egg about two-thirds buried, the upper edge only being visible, so that in many instances it is probable that this species escapes from the unpleasant imposition of becoming a nurse to the sable orphan of the Cowbird. She, however, acts faithfully the part of a foster parent when the egg is laid after her own.

Two instances have been reported to me in which three of the Yellow Warbler's own eggs were covered along with that of the Cowbird. In a third, after a Cowbird's egg had been thus concealed, a second was laid, which was similarly treated, thus finally giving rise to a three-storied nest.

The Yellow Warbler, to attract attention from its nest, when sitting, or when the nest contains young, sometimes feigns lameness, hanging its tail and head and fluttering feebly along in the path of the spectator; at other times, when

certain that the intrusion had proved harmless, the bird would only go off a few feet, utter a feeble complaint, or remain wholly silent, and almost instantly resume her seat. In spring, the male, as in many other species of the genus, precedes a little the arrival of his mate. Toward the latter end of summer the young and old feed much on such juicy fruits as mulberries, cornel berries and other kinds.

The Mocking Bird

By Frank L. Stanton

He didn't know much music
When first he come along;
An' all the birds went wonderin'
Why he didn't sing a song.

They primped their feathers in the sun,
An' sung their sweetest notes;
An' music jest come on the run
From all their purty throats!

But still that bird was silent
In summer time an' fall;
He jest set still an' listened
An' he wouldn't sing at all!

But one night when them songsters
Was tired out an' still,
An' the wind sighed down the valley
An' went creepin' up the hill;

When the stars was all a-tremble
In the dreamin' fields o' blue,
An' the daisy in the darkness
Felt the fallin' o' the dew,—

There come a sound o' melody
No mortal ever heard,
An' all the birds seemed singin'
From the throat o' one sweet bird!

Then the other birds went playin'
In a land too fur to call;
Fer there warn't no use in stayin'
When one bird could sing fer all!

MOCKINGBIRD
(Mimus polyglottos).
½Life-size.

The Mocking Bird (*Mimus polyglottos polyglottos*)

John James Audubon

Length: 9 to 11 inches.

Range: U. S., south to Mexico.

Food: Fruits, grasshoppers, cotton worms, chinch bugs, weevils and boll worms.

It is where the great magnolia shoots up its majestic trunk, crowned with evergreen leaves and decorated with a thousand beautiful flowers, that perfume the air; where the forests and fields are adorned with blossoms of every hue; where the golden orange ornaments the gardens and groves; where bignonias interlace their climbing stems around the white-flowered stuartia, and mounting still higher, cover the summits of lofty trees; where a genial warmth seldom forsakes the atmosphere; where berries and fruits of all descriptions are met with at every step. In a word, where Nature seems to have strewedwith unsparing hand all the beautiful and splendid forms which I should in vain attempt to describe, that the Mocking Bird should have fixed its abode, there only that its wondrous song should be heard.

But where is that favored land? It is in Louisiana that these bounties of nature are in the greatest perfection. It is there that you should listen to the love-song of the Mocking Bird, as I at this moment do. See how he flies round his mate, with motions as light as those of the butterfly. His tail is widely expanded, he mounts in the air to a short distance, describes a circle, and, again alighting, approaches his beloved one, his eyes gleaming with delight. His beautiful wings are gently raised, he bows to his love, and, again bouncing upward, opens his bill and pours forth his melody.

They are not the soft sounds of the flute or of the hautboy that I hear, but the sweet notes of Nature's own music. The mellowness of the song, the varied modulations and gradations, the extent of its compass, the great brilliancy of execution, are unrivaled. There is probably no bird in the world that possesses all the musical qualifications of this king of song.

For a while, each long day and pleasant night are thus spent in singing; but at a peculiar note of the female he ceases his song, and attends to her wishes. A nest is to be prepared, and the choice of a place in which to lay it is to become a matter of mutual consideration. The orange, the fig, the pear tree of the gardens are inspected; the thick brier patches are also visited. They appear all so well suited to the purpose in view, and so well does the bird know that man is not his most dangerous enemy, that instead of retiring from him, they at length fix their abode in his vicinity, perhaps in the tree nearest to his window. Dried twigs, leaves, grasses, cotton, flax, and other substances are picked up, carried to a forked branch, and there arranged. Five eggs are deposited in due time, when the male, having little more to do than to sing, attunes his pipe anew. Every now and then he spies an insect on the ground. He drops upon it, takes it in his

bill, beats it against the earth, and flies to the nest to feed and receive the warm thanks of his devoted mate.

When a fortnight has elapsed, the young brood demand all the care and attention of the parents. No cat, no snake, no dreaded Hawk, is likely to visit their habitation. Indeed the inmates of the next house have, by this time, become quite attached to the lovely pair of Mocking Birds and take pleasure in contributing to their safety. Dewberries from the fields, and many kinds of fruit from the gardens, along with many insects, supply the young as well as the parents with food. The brood is soon seen emerging from the nest, and in another fortnight, being now able to fly with vigor, and to provide for themselves, they leave the parent birds.

The Mocking Bird remains in Louisiana the whole year. I have observed with astonishment, that toward the end of October, when those which had gone to the Eastern states have returned, they are instantly known by the birds who have stayed in the South, who attack them on all occasions. I have ascertained this by observing the greater shyness exhibited by the strangers for weeks after their arrival. This shyness, however, is shortly over, as well as the animosity displayed by the resident birds, and during the winter there exists a great appearance of sociability among the united tribes.

In the beginning of April, sometimes a fortnight earlier, the Mocking Birds pair, and construct their nests. In some instances they are so careless as to place the nest between the rails of a fence directly by the road. I have frequently found it in such places, or in fields, as well as in briers, but always so easily discoverable that any person desirous of procuring one might do so in a very short time. It is coarsely constructed on the outside, being there composed of dried sticks or briers, withered leaves of trees, and grasses mixed with wool. Internally it is finished with fibrous roots disposed in a circular form, but carelessly arranged. The female lays from four to six eggs the first time, four or five the next, and when there is a third brood, which is sometimes the case, seldom more than three, of which I have rarely found more than two hatched. The eggs are of a short oval form, light green, blotched and spotted with umber. The young of the last brood not being able to support themselves until late in the season, when many of the berries and insects have become scarce, are stunted in growth—a circumstance which has induced some persons to imagine the existence in the United States of two species of common Mocking Bird, a larger and a smaller. This, however, as far as my observation goes, is not correct. The first brood is frequently found in New Orleans as early as the middle of April. A little farther up the country they are out by the middle of May. The second brood is hatched in July, and the third in the latter part of September.

The nearer you approach to the seashore, the more plentiful do you find these birds. They are naturally fond of loose sands, and of districts scantily furnished with small trees, or patches of briers, and low bushes.

During incubation, the female pays such precise attention to the position

in which she leaves her eggs, when she goes a short distance for exercise and refreshment, to pick up gravel, or roll herself in the dust, that, on her return, should she find that any of them has been displaced, or touched by the hand of man, she utters a low mournful note, at the sound of which the male immediately joins her, and they are both seen to condole together. Some people imagine that on such occasions, the female abandons the nest; but this idea is incorrect. On the contrary she redoubles her assiduity and care, and scarcely leaves the nest for a moment; nor is it till she has been repeatedly forced from the dear spot, and has been much alarmed by frequent intrusions, that she finally and reluctantly leaves it. Nay, if the eggs are on the eve of being hatched, she will almost suffer a person to lay hold of her.

Different species of snakes ascend to these nests, and generally suck the eggs or swallow the young; but on all such occasions, not only the pair to which the nest belongs, but many other Mocking Birds from the vicinity, fly to the spot, attack the reptiles, and, in some cases, are so fortunate as to force them to retreat, or even to kill them. Cats that have abandoned the houses to prowl about the fields, in a half wild state, are also dangerous enemies, as they frequently approach the nest unnoticed, and at a pounce secure the mother, or at least destroy the eggs or young, and overturn the nest. Children seldom destroy the nests of these birds, and the planters generally protect them. So much does this feeling prevail throughout Louisiana, that they will not willingly permit a Mocking Bird to be shot at any time.

In winter nearly all the Mocking Birds approach the farm houses and plantations, living about the gardens or outbuildings. They are then frequently seen on the roofs, and perched on the chimney tops; yet they always appear full of animation. While searching for food on the ground, their motions are light and elegant, and they frequently open their wings as butterflies do when basking in the sun, moving a step or two, and again throwing out their wings. When the weather is mild the old males are heard singing with as much spirit as during the spring or summer, while the younger birds are busily engaged in practicing their songs. They seldom resort to the interior of the forest either during the day or by night, but usually roost among the foliage of evergreens, in the immediate vicinity of houses in Louisiana, although in the eastern states they prefer low fir trees.

The flight of the Mocking Bird is performed by short jerks of the body and wings, at every one of which a strong twitching motion of the tail is perceived. This motion is still more apparent while the bird is walking, when it opens its tail like a fan, and instantly closes it again. The common cry or call of this bird is a very mournful note, resembling that uttered on similar occasions by its first cousin the Brown Thrasher, or, as it is commonly called, the French Mocking Bird. When traveling, this flight is only a little prolonged, as the bird goes from tree to tree, or at most across a field, scarcely, if ever, rising higher than the top of the forest. During this migration, it generally resorts to the highest

parts of the woods near water courses, utters its usual mournful note, and roosts in these places. It travels mostly by day.

Few Hawks attack the Mocking Birds, as on their approach, however sudden it may be, they are always ready not only to defend themselves vigorously and with undaunted courage, but to meet the aggressor halfway, and force him to abandon his intention. The only Hawk that occasionally surprises it is the Coopers' Hawk, which flies low with great swiftness, and carries the bird off without any apparent stoppage. Should it happen that the ruffian misses his prey, the Mocking Bird in turn becomes the assailant, and pursues the Hawk with great courage, calling in the meantime all the birds of its species to its assistance; and although it cannot overtake the marauder, the alarm created by their cries, which are repeated in succession by all the birds in the vicinity, like the watchwords of sentinels on duty, prevents him from succeeding in his attempts.

The musical powers of this bird have often been mentioned by European naturalists, and persons who find pleasure in listening to the song of different birds while in confinement or at large. Some of these persons have described the notes of the Nightingale as occasionally fully equal to those of our bird, but to compare her essays to the finished talent of the Mocking Bird is, in my opinion, absurd.

The Brown Creeper (*Certhia familiaris americana*)

By I. N. Mitchell

Length: 5½ inches.

Range: Eastern North America.

Food: Small insects, wasps, ants, bugs, cocoons of tineid moths.

Nest behind the loosened bark of trees and stumps, built of strips of bark, feathers, moss; eggs, five to eight.

Although the brown creeper winters sparingly in the north, to the great majority of our people it is known only as a spring and fall migrant. On the upward journey it passes through many states and beyond to glean its summer's living from the tree-trunks of the great forests of Canada.

During the last week of March and the first week of April even the casual observer is apt to notice a little gray, or brownish bird creeping up the trunks of the trees. Stopping to watch the little fellow it appears that he is very methodical, very busy, and very persistent. It seems to be not only business that occupies him, but a very serious business. There is no stopping to exult for a moment in song, no idling away of time in preening of feathers, none of these little by-plays of the early mating season, nothing but that serious, persistent gliding from one tree to another, up it and on to the foot of the next, that suggests one of the old-time copy-book exercises, "downglide-up, downglide-up."

But the pen exercise lasted only for a page, while the creeper's exercise begins early in the morning, lasts till dusk and begins again early the next morn-

BROWN CREEPER.
Life size.

ing and the morning after. It must be that his long, thin, curved bill or those apparently sharp eyes are less efficient in finding food hidden in the cracks of the bark than those of the chickadee or nuthatch, who stop now and again to look about on the world or to play; or, that the creeper is more particular about his diet. Certain it is that the nuthatch and chickadee are fond of suet, and when they find a tree on which it is fastened they return to it daily. Not so the brown creeper; in our experience, it proves no attraction to him. We remember to have watched one once as he neared a piece of suet while creeping up one of our trees. He sampled it and passed on without lingering or offering any other expression of approval.

In climbing a tree, the creeper sometimes follows a straight course up the bole. Much more frequently, he seems to know that the tree will furnish more food if he climbs the spiral staircase of its trunk until he reaches the smooth bark where there are no cracks or where the harvest is too small to waste valuable time upon.

In this spiral journey he is so intent that you may approach to within a few feet of his tree. He may notice you, and keep the tree between himself and you, or he may ignore you altogether.

The picture is a good one, and shows very well the bark-like mixture of brown and white on back and wings, the red-brown of the rump, the brownish gray of the long, harsh, pointed tail, the white of the under parts, and the distinctly curved bill. Unless you imagine that the little birch tree is within three or four feet of you, the bird will appear too large, for the figure is life size. If you will watch the little fellow while he is at work you will notice that he sits closer to the tree, in fact he often appears to have flattened himself out against it. Perhaps that is in cold weather, for the woodpeckers and nuthatch, when it is cold, sit close enough to cover their feet with their feathers, as if to keep them warm.

The creeper is not always as silent as when he is on the journey northward. When he has reached his journey's end and has become occupied with mating and the cares of the nest, he finds time to indulge in a short bit of a song, a sweet little song, but like the bird, soft and subdued.

The writer's acquaintance with the brown creeper began one wintry day in early spring. A thud against the window pane called our attention, and on the window sill lay a little bird apparently dead. We brought it into the house, and as we held it in our palms and examined its markings it gradually recovered from its stunning shock, and by the time we had completed our examination was apparently as well as ever. As soon as our hand was opened on the porch, it promptly flew to the nearest tree and resumed its life work of hunting insect eggs in the crevices of the bark.

The Downy Woodpecker (*Dryobates pubescens medianus*)

By Herman C. DeGroat

Length: Six inches.

Range: Middle and eastern portions of United States, Canada and Alaska.

Food: Beetles that bore into timber, caterpillars, grasshopper eggs, wild fruits and seeds.

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

The Downy is the smallest of all the Woodpeckers. However, he makes up in strength and activity what he lacks in size. There are few birds in the North more helpful to man than this one. While many others work hard for us from dawn to darkness during the summer time, this little keeper of the trees works throughout the entire year, and takes no holidays. He is always searching for the tree-destroying borers, ants and caterpillars. Clinging to the trunk with his peculiar feet and braced with his stiff tail, he hammers away with a vigor that must startle the grubs within. Quickly overtaking them with his hammer and chisel and spearing them with his barbed tongue, he makes but a single bite of the largest of them.

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

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

DOWNY WOODPECKER.
Life-size.

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

Birds in Cemeteries

By Edward B. Clark

People who are striving for effect sometimes call burial-grounds "cities of silence." That's all well enough, perhaps, poetically, but in May and June cemeteries are anything but silent. The songsters found out long ago that a meed of protection was given them inside cemetery walls that was given nowhere else. Sentiment is of course largely responsible for this, for no matter how active may be the nest-robbing proclivities of the small boy, he withholds his hand in the graveyard. The birds throng in the city parks during the migrations, but it is in the city cemeteries that they make their homes. Oakwoods, Rose Hill, and Graceland, in Chicago, resound with song all through the birds' courtship season. Nearly every tree and shrub in these burial-places holds the home of a songster. In late June young robins and bronzed grackles in hundreds are scattered all over the lawns. The catbirds and brown thrashers are in every thicket, and the wood thrush tinkles his twilight bell on every side. Birds that in other places are shy and timid in the cemeteries become familiar and fearless.

Graceland cemetery is wholly within the city of Chicago. Within its limits birds can be found that seldom are found elsewhere. The cardinal grosbeaks are rare enough in northern Illinois. I have seen only one pair in a wild state in the vicinity of Chicago, and this pair I found in Graceland cemetery. The male made a perch of the tip of a towering tree, and there with the sun shining full on his scarlet coat, he sang and whistled in the perfect ecstasy of living. He soon had an audience, for from all parts of the burial-ground the people gathered, attracted by the magic of the voice. Had that southern songster dared to give that solo in Lincoln Park I should have trembled for his life, but within the cemetery walls I felt that he was safe. There are people who, when looking at the bright plumage of a bird or listening to its sweet song, can think of only one of two things, killing it or caging it. I heard expressed that afternoon, while the grosbeak was singing, a dozen wishes: "I'd like to have that fellow in a cage." It is my sincere belief that the first bird that Adam saw was pecking at a cherry, and that the first bird that Eve saw was some scarlet tanager flashing across a sunlit meadow. Adam said, "The bird is a thief"; Eve said, "The bird is a beauty." From that day to this the hand of man and the head of woman have been against the bird.

The female cardinal is as musical as her mate, though she has but a small share of his beauty. When the male cardinal had tired his throat with his sing-

ing that afternoon the female took up the strain and sang alone for fully five minutes. Then she joined the male and together they flew beyond the cemetery walls where I was afraid their beauty of plumage and voice would invite destruction. I heard from a friend, however, that the cardinals were again in Graceland a few days later.

In late April, 1900, the evening grosbeaks put in an appearance in Graceland cemetery. They were found by two members of the Audubon Society, who were out on a search for spring birds. The evening grosbeak is in its coloring one of Nature's handsome children. The body of the male is brilliant yellow, while the tail is jet black. The wings are sharply contrasted black and white. It is not at all a graceful bird. Its body is chunky and its movements are awkward, the legs and feet seemingly being unequal to the task of supporting the bulk of body and feathers. The discoverers of the grosbeaks were kind enough to tell me of the birds' presence in Graceland, and I went with them the next day and found the creatures in the place they had first been seen. There is something very childlike perhaps in the joy one feels in making a new bird acquaintance. I never before had seen a living evening grosbeak. There are men who have made ornithology a vocation rather than an avocation, and yet never have met this bird. The Graceland grosbeaks spent about half the time in a clump of evergreens, flying from there to some box-elders, where they would feast for a while on the buds. There were between twenty and thirty individuals in the flock. Within a stone's throw of the birds' feeding-place workmen were hammering spikes on an elevated railroad then under construction. The din was nearly deafening Added to this, a locomotive with a tool train was puffing backward and forward on the surface road beneath the elevated structure. The grosbeaks paid no attention to the racket. They also appeared absolutely fearless of the three human beings who stood just beneath them almost within arm's reach and ogled them through opera-glasses. Although the grosbeaks were strangers in this part of the country, they seemed to know the Illinois bluejay well enough and to share with other birds the antipathy felt for this feathered thief. One of the male grosbeaks attacked a jay that had approached the feeding-place, and the two fought in mid-air. I have told elsewhere of a fight between a bluejay and a scarlet tanager and of the bewildering confusion of color beauty that the combat presented. In the grosbeak-bluejay fight there was a change of color scheme, but the confusion and the beauty were there not a bit abated. The grosbeak thrashed the jay, whereat three human spectators rejoiced in concert with a dozen ruby-crowned kinglets who had watched the row from a thicket. The grosbeaks disappeared from Graceland on the afternoon of Friday, April 20th, thereby disappointing some bird-lovers who made belated attempts to see them.

I have just called the jay a thief. I have called him so a number of times, and I will call him so again when opportunity offers. He is a thief, but he is an interesting thief, and I don't know that we could do without him. What

would the doctors do if they didn't have criminals to study in order to form new degeneracy theories? Why, the doctors would lose half the fun of their profession. When you see a jay sneaking off through the trees with his bill spiked through a stolen robin's egg, you know at once why everything that wears feathers hates him. A Kentucky friend once told me of seeing a jay deliberately lift four newly hatched mockingbirds out of the nest and drop them to the ground, where they perished. I had thought there must have been some mistake about this story, for while I knew the jay was fond of eggs, I hardly thought he was hardened enough to commit murder. I am no longer in doubt. I found in Rose Hill cemetery the nest of a wood pewee. It was a beautiful little lichen-made saucer resting on the upper side of a broad horizontal limb of an oak. I visited the nest a number of times and watched the father bird launch out from the tree to snap up occasional insect trifles. He was a pugnacious little fellow, and he kept all the birds of the neighborhood at a distance. A pair of jays had a nest in an evergreen tree not far away, and knowing the jays' thieving proclivities, the wood pewees waged constant war against them. The appearance of either one of the pair within twenty yards of the pewees' home was the signal for an attack. The jay always fled. One day three little creatures poked their way into the world through the eggshells in the oak tree nest. There were enough insects near the oak tree, apparently, to supply the wants of parents and children. It was seldom that either one of the pewees wandered away from home. I have never been able to explain why it was that on one afternoon as I stood watching the birds, they both left the oak and flew to a catalpa fully fifty yards away. No sooner had the little guardians left their charge than one of the jays came like a flash from the evergreen, and before I could realize what was being done, much less interfere, the three infant pewees were lifted from the nest and dropped one by one to the gravel walk below. The parent pewees soon came back, and their mourning is with me yet.

In Graceland there is a little lake whose waters and the perfect peace of the surroundings attract many of the wilder birds. One April morning I flushed a woodcock from under the trees on the shore In the early spring mallards not infrequently rest in the sedges near the little island with its drooping willows. The grebes, that are hunted mercilessly throughout the entire year because women covet their silver breasts for bonnet decoration, make this Graceland pond a resting place for days together while on the weary journey northward. No gun flashes through the bushes on the shore, and the harassed birds find peace and food. Three of the grebes stayed on the waters of the pond for ten days, and became so tame that they paid no attention to the curious people who watched their swimming and diving feats. A female blue-bill duck came into the Graceland pond one morning and was so pleased with the situation that she stayed for two weeks. Before the blue-bill left it was possible to approach within a few yards of her without causing her either to dive or to dart away.

Seven small herons dropped down to the edge of the cemetery pond one day and when startled by approaching footsteps, they flew to the island and perched on one of the willows. There they drew their heads down into thier shoulders and stood motionless. It has always been a matter of regret that those herons were not positively identified. The green heron is a much more abundant bird than is his little blue cousin. It was a dark day when the birds were seen, and as there was no way of reaching the island, distance forbade certain identification. A fellow bird-lover, whose opinion carries treble the weight of mine, was almost willing to say positively, "Little blue herons." Probably they were, but neither of us has dared to add the name of the bird to our Chicago lists.

I give herewith a list of the birds that probably nest every year in the Chicago cemeteries. In many instances the nests have been found, and in the other cases the birds have either been seen with young or have been found to be resident during the breeding season: Robin, flicker, red-headed woodpecker, chickadee, kingbird, phœbe, wood pewee, least fly catcher, bronzed grackle, rose-breasted grosbeak, song sparrow, chipping sparrow, vesper sparrow, catbird, brown thrasher, yellow warbler, redstart, red-eyed vireo, wood thrush, bluebird, house wren, blue jay, indigo bird, Baltimore oriole, orchard oriole, scarlet tanager, cedar-bird, cow-bird (parasite), yellow-billed cuckoo, black-billed cuckoo, mourning dove, crow, loggerhead shrike, towhee, goldfinch, ruby-throated hummingbird, oven bird.

It is probable that some of the hawks and owls nest within the cemeteries' limits, though I know of no recorded instances. The nests of the meadowlark and bobolink both have been found on a patch of ground belonging to the Rose Hill cemetery authorities and lying just outside the fence of the cemetery proper. When it is taken into consideration that these burial-grounds lie within the limits of a city of nearly two million inhabitants, there will come a realization that there is much wild life in the very heart of civilization.

Although the journey is generally made the other way, it may not be amiss to go from the cemetery to the church. I have never found owls in the graveyard, but I have found them in the sanctuary. During the winter of 1895 several owls, which I believe were of the long-eared species, took up a temporary residence in the steeple of Unity Church, Walton Place and Dearborn Avenue, Chicago. The church steeple for years had been the home of a flock of pigeons. When the owls appeared the pigeons had to seek other quarters, though the chances are that several members of the flock were sacrificed to owlish appetites before the moving was accomplished. One evening during a heavy snow storm I saw two of the owls sitting in a tree on Delaware Place and blinking at a strong electric light which stood not ten feet away. During the same winter the screech owls visited the city in numbers. They were particularly common

along Dearborn Avenue. One of the little fellows took up his abode under the porch of a residence and stayed there for ten days. It is a sorrow to be compelled to record that many of these visitors lost their lives at the hands of the street boys. It is particularly sorrowful to record this because the chances are that the owls were doing their full duty in the matter of killing English sparrows.

Standing in Graceland cemetery at the height of the bird concert season, and hearing ten songsters at once breaking the silence of the place, I have wondered whether the birds loved to hear themselves sing. I suppose that they would make music for the world if they were as deaf as posts. I have a reason for this supposition. It is some distance from Graceland cemetery, Chicago, to Goat Island, Niagara River, but I must go that far for my reason. Since New York State has made a park of the island and has enforced rules for the regulation of lawless visitors, the birds have gone back to the place and have made of it their summer home. Goat Island lies in the river on the brink of the precipice between the American and the Canadian Falls. It is eternally deluged, as one might say, with the roar of the waters. In places upon Goat Island it is hard to make the human voice heard. The season was a little late for the singing of the birds when I visited the island in July. The song sparrow, however, sings every month of the year, and one of these little fellows was perched on the limb of a tree close to the great fall and was trying to let the sight-seeing visitors know that he was singing a solo. The noise of the waters was thunderous. Birds may have acute ears, but I doubt very much if that song sparrow heard his own sweet strains. He was prompted to sing, and sing he must, though the song was lost in the roar of the falls.

There is plenty of excuse for the visitor to Niagara, even though he be a bird-lover, for seeing nothing but the ever-changing color beauty of the plunging water. I did get my eyes away from that magnificent sight long enough to note that myriads of swallows were passing and repassing through the great cloud of spray and mist that rises from the rocks where the falling waters strike. People approaching the falls from below on the venturesome Maid of the Mist are compelled to wear rubber clothing to escape a drenching from the dashing spray. It is heavier in places than the heaviest rain, and yet through it the swallows were constantly darting, taking a shower bath without apparently wetting so much as a feather. Most of the birds that I saw on that late July morning were tree swallows. They constantly cut through the bars of the floating rainbow which in sunshine is ever present at Niagara. There was no hue in those broad color bands more beautiful than the shining green that the sunlight brought out as it struck the upper feathers of those darting swallows.

The Vesper Sparrow (*Pooecetes gramineus gramineus*)

By W. Leon Dawson

Length: Six inches.

Range: Eastern N. A. to the Plains, eastern Canada.

Food: Wild seeds.

A sober garb cannot conceal the quality of the wearer, even the Quaker gray be made to cover alike saint and sinner. Plainness of dress, therefore, is a fault to be readily forgiven, even in a bird, if it be accompanied by a voice of sweet sincerity and a manner of self-forgetfulness. In a family where a modest appearance is no reproach, but a warrant to health and long life, the Vesper Sparrow is pre-eminent for modesty. You are not aware of his presence until he disengages himself from the engulfing grays of the stalkstrewn ground or dusty roadside and mounts a fence-rail to rhyme the coming or the parting day.

The arrival of Vesper Sparrow in middle early spring may mark the supreme effort of that particular warm wave, but you are quite content to await the further travail of the season while you get acquainted with this amiable newcomer. Under the compulsion of sun and rain the sodden fields have been trying to muster a decent green to hide the ugliness of winter's devastation. But wherefore! The air is lonely and the fence rows untenanted. The Meadow Larks, to be sure, have been romping about for several weeks and getting bolder every day, but they are boisterous fellows, drunk with air and mad with sunshine; the winter-sharpened ears wait hungrily for the poet of common day. The morning he comes a low, sweet murmur of praise is heard on every side. You know it will ascend unceasingly thenceforth, and spring is different.

Vesper Sparrow is the typical ground bird. He eats, sleeps, and rears his family upon the ground; but to sing—ah! that is different!—nothing less than the top rail of the fence will do for that; a telegraph pole or wire is better, and a lone tree in the pasture is not to be despised. The males gather in spring such places to engage in decorous concerts of rivalry. The song consists of a variety of simple pleasing notes, each uttered two or three times, and all strung together to the number of four or five. The characteristic introduction is a mellow whistled he-ho a little softer in tone than the succeeding notes. The scolding note, a thrasher-like kissing sound, tsook, will sometimes interrupt his song if a strange listener gets too close. Early morning and late evening are the regular song periods, but the conscientious and indefatigable singer is more apt to interrupt the noon stillness than not.

Since the Vesper Sparrow is a bird of open country and uplands, it cares little for the vicinity of water, but it loves the dust of country roads as dearly as an old hen, and the daily dust bath is a familiar sight to every traveler. While seeking the food of weed-seeds and insects, it runs industriously about upon the ground, skulking rather than flitting for safety. Altho not especially timorous, it appears to take a sort of professional pride in being able to slip about among the weed-stems unseen.

VESPER SPARROW.
[Pocecetes gramineus.]
½ Natural size.

It is, of course, at nesting time that the sneak-ability of the bird is most severely tested. The nest, a simple affair of coiled grasses, is usually sunk so that the brim comes flush with the ground. For the bird seeks no other protection than that of "luck" and its own ability to elude observation when obliged to quit the nest. The ruse of lameness is frequently employed where danger is imminent. At other times the sitting bird is shrewd enough to rise at a considerable distance.

Two and sometimes three broods are raised in a season, the first in late April, the second in late June or early July. Upland pastures and weedy fields are the favorite spots for the rearing of young, but plowed ground is sometimes usurped if left too long, and roadsides are second choice.

There is reason to believe that this species has invaded the state within the historic period, since Audubon expressly states that he did not meet it in Ohio. At any rate it is gradually increasing in numbers and its range extending as the forests dwindle.

The Little Brown Creeper

By Garrett Newkirk

"Although I'm a bird, I give you my word
That seldom you'll know me to fly;
For I have a notion about locomotion,
The little Brown Creeper am I,
Dear little Brown Creeper am I.

"Beginning below, I search as I go
The trunk and the limbs of a tree,
For a fly or a slug, a beetle or bug;
They're better than candy for me,
Far better than candy for me.

"When people are nigh I'm apt to be shy,
And say to myself, 'I will hide.'
Continue my creeping, but carefully keeping
Away on the opposite side,
Well around on the opposite side.

"Yet sometimes I peck while I play hide-and-seek,
If you're nice I shall wish to see *you;*
I'll make a faint sound and come quite around
And creep like a mouse in full view,
Very much like a mouse to your view."

The Red-Tailed Hawk (*Buteo borealis*)

By Lyds Jones

Length: 20 inches.

Range: Eastern North America west to the Great Plains, north to latitude 60°, south to Mexico.

Food: Mice, mammals, game birds, insects.

Among the Birds of Prey, this is one of the largest of the Hawks, and stands next to the familiar Sparrow Hawk; is easy of identification. Only one of the birds which are commonly called Hawks is larger, and that one, the American Rough-leg, is found in the winter months in small numbers in the North. Furthermore, the Rough-leg is a bird of the twilight, while the Red-tail is most active during bright days. But if you would know the Red-tail certainly you must learn to notice the uniformly colored tail. There may be one dark band near the tip, but the rest of the tail will be some shade of rufous or brown, without bands of any color. One also soon learns to see a certain majestic movement in the soaring flight, a more dignified wing stroke, and withal, a certain appearance of strength and power not manifest among the smaller hawks, particularly the smaller Red-shouldered.

In spite of the fact that this bird sometimes visits the poultry-yard, and may feast daintily upon sparrow or pigeon, I cannot help admiring him. His sagacity is shown in the selection of a nesting site, which is the taller and less easily accessible trees, and in his habit of showing himself as little as possible in the vicinity of his nest, except high above it. To the initiated the whereabouts of that carefully arranged bundle of sticks may be guessed from the manner in which the high-soaring bird behaves. Unless the nest is actually threatened there is no demonstration of hostility, but a dignified, watchful indifference to an unwarranted meddling with private affairs. But once threaten the nest and the speck in the upper air descends like a bolt out of a clear sky, swerving aside just at the point of contact and sweeping upward again for a renewed attack. Even the fiercest birds will not actually strike the human intruder, much as he may deserve punishment, but the angry scream and the booming air beneath the half-closed wings try the nerves of the bravest, while he is perched in the lofty tree-tops.

Much abuse has been heaped upon this bird's head, the most of it unwarranted. Careful study has proved that chickens are molested only when other food is unobtainable. And when birds have been killed in the act of raiding the poultry-yard they have been young birds for the most part. On the other hand, the harmful animals and insects which this hawk destroys far overbalance the depredations upon poultry. It is no more fair that all hawks should be killed because one occasionally destroys chickens than it is to kill all cats because one sometimes becomes a chicken killer.

A. W. MUMFORD, PUBLISHER, CHICAGO

RED-TAILED HAWK.
½ Life-size.

The cry of Red-tail is unlike that of any other of the hawks, and may become a certain mark of identification during the late winter and early spring weeks. It is a long-drawn scream of warning and defiance, given on a descending scale. It is harsh and piercing, and commanding, uttered when danger threatens, when a rival for his lady's affections appears, and often when the mating season begins. Its character is unmistakable. The Blue Jay cannot successfully imitate it, because his lungs lack the capacity.

A Tragedy in Birdland

By Amy B. Ingraham

"I have found one of the most beautiful bird's nests. It looks much like a Baltimore Oriole's nest only not so deep. I wish I could see the bird that built it. Something must have frightened it away or caught it because the nest does not seem to have been used."

The speaker was a little old lady who loved birds; the time, the summer of 1910. Her tiny acre was a bird's paradise. Orioles, robins, wrens, wax wings and song sparrows flitted among the trees and shrubs and sung the summer through. The porch vines sheltered a brown cap's nest; a wren nested in a tiny birdhouse on the barn side and a blue bird luxuriated in a summer squash shell shaded with hop vines. Cherries, raspberries and currants supplied them with fruit and high fences kept out many cats.

The feathered songsters paid their way by destroying injurious insects and by ushering in the morning light with a perfect deluge of song and making the last hour of departing daylight equally melodious and, often, during the night some irrepressible bursts of melody might be heard.

All birds were welcome and Pinky, the large cat, was kept shut up in comfortable quarters during the hours the birds were about because no amount of explanation could make him understand that a cat ought to prefer a mouse diet and abhor the taste of birds.

The spring of 1911 brought again the feathered friends and, among them—delightful thought—the unknown owners of the beautiful nest or some just like them, because they were re-lining and furbishing it up.

They were almost too shy to be caught at work, but in the early morning they could be approached by a careful observer.

One morning the little woman came up quite excited. "Now they are at work," she said. "If you will come, you can see them. I want to know if you can tell what kind of birds they are. They are the most graceful birds I ever saw They are brown with stripes running from the bill back."

I carefully approached behind the bushes.

"Why," said I, "it resembles an English sparrow, only it's too large and longer bodied. When it flies, it looks dusky and like a cat-bird."

We thought both birds were brown. We did not notice a white orange,

red and black bird which was always swinging from the willow twigs and singing, "Chir-r-r, bob-o-link, chir-r-r."

In time, the nest was finished and four light colored eggs appeared. If her nest were approached, the bird slipped off behind the leaves and appeared elsewhere, hopping and climbing from twig to twig and bush to bush, plainly unaware of the existence of any nest.

At almost any time of day, the shiny coated black, white, red and yellow bird could be seen climbing ceaselessly up and down the willow tree and swinging gracefully from tip to tip of the drooping branches and always singing his cheerful song, "Chir-r-r, bob-o-link, chir-r-r."

On the first of June, two ugly, naked little birds appeared. They had big, bulging closed eyes and straggly legs and looked altogether unlovely. When we peeped into the nest, the gaily colored bird swung wider on the willow tendrils, climbed around faster and uttered a shrill warning "Chir-r-r, chir-r-r." I looked at his shining, black plumage, splashed on the shoulders with gayer colors and questioned what those ugly nestlings could be to him. The less excited brown bird uttered the same, "Chir-r-r, chir-r-r." They must be mates.

The nest was in a tiny elm tree growing close to the back fence on a slight muddy ridge which arose above the surrounding swamp—a swamp made by the drainage from Cal. Perry's cess-pool, Geo. Dodge's sewer, water from Honeoye street, and from other homes along the bank; but none from us. The mud of this swamp must have supported large numbers of the bug and grub families, which the birds probably found because they often flitted to the ground and searched in the mud.

The black bird stripped the willow catkins as he swung head downward and chewed them with great gusto.

On the second of June, two more ugly, naked birdlings appeared. Both old birds were now fairly frantic if any one approached the nest and we did not tease them by staying near.

The brilliant plumage of the male bird, flashing amid the foliage of the willow was so common a sight and his cheery notes so common a sound that we spoke of it the next day and said we would not have them with us much longer, but we little thought how short the time and how tragic the end.

About 6 p. m., June third, we heard faint shots in Salomon's pasture and supposed it was boys. When we rushed out, we were surprised to find it was Cal. Perry and our beautiful birds, fatally wounded, were fluttering in the stinking water of the swamp on Salomon's land.

He said he was killing blackbirds which were pulling his corn—four short rows 24 rods away on the other side of his house. They were never in our corn which was near them. I had never seen them leave our premises except as they were frightened about their young.

Mr. Perry went home and I put on my rubber boots and waded into the

filthy, weed-grown water and picked up the birds—the handsome male, with a broken wing, broken just where the beautiful shoulder feathers grew; and the female with one wing broken and shot through the body.

How sorrowful we felt. Their graceful manners and shy, witching ways had made them very dear to us. A few minutes before, they had been joyful and full of life and now we were carrying them to the house dangerously wounded, their song forever hushed, the victims of the very one whose crops they would have protected. During nesting time they must destroy from 400 to 600 worms and insects per day.

What could we do with them? There were four little ones waiting for their suppers and we knew not how to care for them. If only *one* old bird had been left!

We cut off the double top of the little elm which held the nest and placed it in a jar of water in the bay window and covered the little birds in the nest with a handful of hen's feathers and a cloth. Then we prepared some strong carbolic acid and water, wet the male bird's broken wing with it and wrapped him up in the bottom of a basket. The other bird was soaked with the filthy swamp water, so we rinsed her off in the carbolized water, dried her feathers carefully and wrapped her up in a box.

They were *only birds*, but the Bible says that not even a sparrow shall fall to the ground without the Father's knowledge.

We went sadly to bed. The old birds must have passed a terrible night—alone, frightened, in a strange place, sorrowing for their little ones and suffering tortures from their wounds which we did not know how to dress.

All the next day, Sunday, June 4th, I spent with the birds, trying to relieve the suffering of the old ones and find food for the little ones. Either old bird would remain quiet on one hand, covered with the other hand, as long as I would hold it. It seemed to comfort them.

Angleworms were all we could find and the little ones did not like them but we knew not what the old birds fed them nor where to get it.

The old birds tried climbing the elm bush but made sad failures, usually falling down before reaching the nest.

I put one of the little ones in a robin's nest, thinking the robin would know more about bird food than I. On the morning of the 5th, this bird and one of the others died. I made the mistake of leaving these dead birds where the old ones could see them. The remaining two I placed in a box lined with warm cloth and covered them with a feather blanket.

During Monday forenoon, the mother bird seemed more cheerful and this brightened up the other bird. She picked two pupae from a can of dirt, ate two grubs and induced her mate to eat a couple. They both kept climbing to the nest and seemed to miss the little ones.

In the afternoon, she began to creep into dark corners and sit still. Her mate

followed and tried to coax her out. He crept close, placed his bill against hers and tried to shove her out. But his loving efforts were of no avail. If I removed her, she immediately crept back into that corner or some other. The bird that 48 hours before was jubilantly happy and destroying hundreds of injurious insects daily was now broken hearted and suffering the tortures of a painful death. Her mate, in addition to his own sufferings, seemed to realize that she must die. He snuggled up beside her and stroked her feathers affectionately with his bill. Two human beings could not have expressed their despair, suffering and affection more plainly than these feathered friends of man. I wanted to comfort them but they could not understand. I could neither heal their bodies nor return their happiness.

That night, the brown bird sat on a newspaper and the black one sat on the edge of the nest. How long and sorrowful those hours must have been!

The next morning, June 6th, they died; the female at 8 o'clock and the male at 9.

Then the question arose, should we bury them or send them to a zoologist? We must decide immediately because they would not keep. We sent them away.

The two remaining little birds possessed voracious but very fastidious appetites. They required to be fed every fifteen minutes on perfectly fresh food. Their little, pink mouths would pop out from under the feather cover, poised on their long, slim throats. As they wavered about, they resembled pink flowers, wind blown. A little mistake in diet would make the birds droop. We could find little else but angleworms and not much of them. We had to go to the woods for them. We dug the garden over and re-dug it; then, dug it again and, after that, several more times. Sunday, it was a regular forenoon job because worms saved over night made them sick.

They usually had their first meal at 4:30 a. m. and their last one about 8 p. m. Here is a specimen bill of fare for one day. June 7th, when they were 5 and 6 days old, 56 2-3 angleworms, 30 currant worms, 6 pupae, 13 large white grubs, 2 wireworms, 1 large cutworm, 5 rosebugs, 4 sowbugs; total, 117 2-3. And the old birds would have fed them more than that.

Their appetites increased somewhat with their growth. The smaller one was delicate and always received the choicest bits. Its feathers were black and were hardly out when it drooped and died at two weeks of age.

The other bird, we named Chirk-chirk from her peculiar call. She finally refused angleworms entirely and developed a taste for bread and milk with such insects as we could obtain. She never knew what a cage was. She was out of doors whenever we were. At other times and at night, she had a room of her own. She was never too sleepy, no matter how dark the night, to call to me in the sweetest little notes as I passed her room on my way to bed. If I stood near her perch in the dark, she would answer as long as I talked to her. If I took her on my finger, she would snuggle against my face and seem perfectly happy.

At about three weeks of age, she would pick up her food but she was never old enough to not insist upon having part of her food every day poked down her throat, baby bird fashion.

As soon as she could fly, she would follow everywhere. If we called, "Chirk-chirk!" she would come no matter where we were. Spiders, wire-worms, crickets, black bugs and curculio larvae were favorite foods.

She searched for food in a peculiar way. She inserted her closed bill in the soil and then opened it, exposing her victim. When I was talking to her and stopped speaking, she would insert her bill between my lips and open them. If she were at the far side of the garden and heard my voice speaking to another person, she would instantly fly to me.

The third Sunday of her life, she was sufficiently feathered to take a bath. I prepared a shallow basin of water and placed it in a sun-shiny place on the lawn, put her beside it and seated myself near. It was the first time she had ever seen water. She did not notice it; but I was sufficiently familiar with her family traits to be sure she saw it and her bright brain was thinking about it. Suddenly she hopped directly into the center of the basin and began bathing vigorously. Then the draggled thing climbed my arm and shoulder and, when close to my face, shook herself. I had difficulty in keeping her in a more sheltered, sun-shiny position until dry.

As she grew older, she often took two or three baths a day. If we were washing vegetables, she bathed there; when we rinsed the carpet, she bathed on it; if we drank from the dipper, she hurried into it for a bath; and a slanting stick in a jar of water afforded footing for a bath. We had difficulty in keeping her out of the washtub.

By the first of July, we expected every night she would go to the trees to roost and spoke of the time when we should lose her entirely. Still, she showed no signs of going.

On Sunday, July 9th, she was more frolicsome than usual. She fluttered and danced her delight as she picked the curculio larvae from the plums I opened for her. She ate her bread and milk with unusual zest.

At dinner time, I left her outside on her favorite smilax vine. A few minutes later, I was out on the verandah and called to her, "Chirk-chirk! Where are you, little Chirk-chirk?" but there was no reply and no Chirk-chirk came. I remembered a water barrel and her love of water. I hastened to it, fear at my heart. There was a dark bunch floating on the water. Oh, that it might be something else! I reached for it. It was the bird! I rinsed her off and put her where she would dry. She had a black bug in her mouth. We both cried but we could not talk about her nor look at her—not that day.

The next afternoon I stuffed the body and we have it yet but it reminds us but little of the animated creature we called Chirk-chirk, whose loving companionship had brightened many days.

The Golden Eye (*Clangula clangula americana*)

By Gerald Alan Abbott

Length: About 19 inches.

Range: North America; breeds Maine and British Provinces north. Winters in Cuba and Mexico.

Food: Mostly small shell and other fish, which it procures by diving.

The Golden-eye, or "Whistler," and decidedly a deep water fowl, is a common winter resident on the Great Lakes and in the larger rivers. It occurs from coast to coast, but the Barrow's golden-eye chiefly replaces this form from the Rocky Mountains westward. A flock of golden-eye traveling with the wind at eighty miles an hour produces a sound with their wings from which the bird derives the name whistler. Feeding almost entirely on fish, they are not so good eating as are most ducks. These birds are expert divers, and are sometimes caught in nets which have been lowered into five fathoms of water.

During the spring, the golden-eyes retreat to the timbered lakes, near which each female selects a hollow tree, where eight to fourteen beautiful bluish green eggs are deposited. The writer found ten eggs, fourteen feet from the ground, in the hollow of an oak on a timbered peninsula, jutting out into Devil's Lake, North Dakota. In passing I noticed little particles of down attached to the bark above the cavity. Inspection disclosed the incubating bird which refused to leave her treasures until touched.

Of all wing-music, from the drowsy hum of the Ruby-throat to the startling whirr of the Ruffed Grouse, I know of none so thrilling sweet as the whistling wing-note of the Golden-eye. A pair of the birds have been frightened from the water, and as they rise in rapid circles to gain a view of some distant goal, they saw the air with vibrant whistling sounds. Owing to a difference in the wing-beats between male and female, the brief moment when the wings strike in unison with the effect of a single bird, is followed by an everchanging syncopation which challenges the waiting ear to tell if it does not hear a dozen birds instead of only two. Again, in the dim twilight of early morning, while the birds are moving from a remote and secure lodging place, to feed in some favorite stretch of wild water, one guesses at their early industry from the sound of multitudinous wings above contending with cold ether.

The Golden-eye is a rather rare winter resident, but is better known as an early spring and late fall migrant. It moves north with the Mallard and the Green-winged Teal, and frequently does not retire in the fall until driven down by closed waters. It is found chiefly about the most retired stretches of open water or upon Lake Erie, and is exceedingly wary. The bird loves chilly waters and dashing spray, and very much prefers the rock-bound shores of mountain lochs, or the crunch and roar of icebergs to the milder companionship of sighing sycamores and waving sedge.

AMERICAN GOLDENEYE.
Life-size.

My Birds

By Jane L. Hine

No bird that the Lord has created
  Shall come to misfortune through me;
Not one of my jolly old Robins,
  Though they take the fruit from my tree.

Not one of my silken-clad Blackbirds
  Who nest in the pine that stands near;
Not one of my little brown House Wrens,
  So saucy, so tame and so dear;

Not one of my sweet gentle Bluebirds
  Who come with the first days of spring;
Not one of my gay Golden Robins—
  Would I wear my Oriole's wing?

Not one of my Quaker-clad Cuckoos,
  Nor Pewees that home in my shed;
Not one of my jewel-crowned Kinglets
  Shall adorn a hat for my head.

Not one of my dear little Downies
  Who work in my old apple tree,
Nor Harries, nor Red-heads, nor Gold-shafts—
  Should their wings make trimmings for me?

Not one of my great stately Herons
  Not one of my reed-loving Rails;
Not one of my shy Water Witches;
  Not one of my cheerful voiced Quails;

Not one of my beautiful Wax-wings,
  Though they take my cherries I know;
Not one of the birds God has given me;
  Not even my jaunty old Crow,

Shall have from me aught but kind treatment,
  When He who created them all,
Would feel both compassion and sorrow
  If even a Sparrow should fall.

Birds' Nests

The skylark's nest among the grass
And waving corn is found;
The robin's on a shady bank,
With oak leaves strewed around.

The wren builds in an ivied thorn
Or old and ruined wall,
The mossy nest so covered in
You scarce can see at all.

The martins build their nests of clay
In rows beneath the eaves;
The silvery lichens, moss and hair,
The chaffinch interweaves.

The cuckoo makes no nest at all,
But through the wood she strays
Until she finds one snug and warm,
And there her eggs she lays.

The sparrow has a nest of hay
With feathers warmly lined;
The ring-dove's careless nest of sticks
On lofty trees we find.

Rooks build together in a wood,
And often disagree;
The owl will build inside a barn
Or in a hollow tree.

The blackbird's nest of grass and mud
In bush and bank is found:
The lapwing's darkly spotted eggs
Are laid upon the ground.

The magpie's nest is made with thorns
In leafless tree or hedge;
The wild-duck and the water-hen
Build by the water's edge.

Birds build their nests from year to year
According to their kind;
Some very neat and beautiful,
Some simpler ones we find.

The habits of each little bird
And all its patient skill
Are surely taught by God himself
And ordered by his will.

John Burroughs

By Edward B. Clark

When it became known that John Burroughs, poet, was to be the guest of Theodore Roosevelt, President, on the Yellowstone Park trip, someone remarked: "Mr. Roosevelt will be in good company." In truth he was in good company, and there is perhaps no nature lover in this land of ours who did not envy the President of the United States his good luck in the prospect of a few weeks' companionship with rare old John Burroughs. A great news agency sent broadcast the announcement that the President had chosen Mr. Burroughs as a field comrade in the Yellowstone region in order that the writer-scientist might teach him the ways of the wild animal folk of the Rockies. There is no humor like unconscious humor, and those who knew a thing or two laughed at this bit of misinformation sent out by a bureau supposed to supply intelligence in a double sense. When John Burroughs reached Chicago he called the attention of the present writer to this newspaper statement that he was to be the teacher of Theodore Roosevelt in the ways of nature. "That was rich," said John Burroughs. "Mr. Roosevelt knows more of the natural history of the West than four John Burroughs rolled into one. He will teach me, I trust."

I have spoken of John Burroughs as a poet. He is indeed the truest of poets, though the greater part of his writings is in prose. His prose has in it the very essence of poetry at all times save when the poet forsakes poetic thought and takes up the ever-severe science. Mr. Burroughs is an exact scientist. It is the general belief that the very coldness of science prevents its devotee from ever feeling his system pervaded with the warmth of poetry. John Burroughs is one of the living refutations of this thought. Who are the others? It will take some searching to find the answer. Mr. Burroughs can turn from a scientific analysis which involves the splitting of a hair, or a feather, or a leaf, and the making of the layman's head to swim with Latin terms, to pen something like this on the beauty of the marsh marigold: "Like fixed and heaped up sunshine there beneath the alders, or beyond in the freshening fields." He can tell the musician in terms to his liking the pitch and compass of a bird's song. And then for him to whom the terms of music are as nothing, but in whose soul there is song, he will give some such description as this of the chant of the hermit thrush, following it with an exquisite bit of rhythmic prose: "O spheral, spheral, O holy, holy! O clear away, clear away, O clear away. The song of the hermit thrush is the finest sound in nature. It suggests a serene religious beatitude. It realizes a peace and a deep, solemn joy that only the finest souls may know. Listening to this strain on the lone mountain top with the full moon just rounded from the horizon, the pomp of our cities and the pride of our civilization seem cheap and trivial."

This description of the matchless song of the hermit thrush was written years ago, and the last line or two of it have been plagiarized again and again.

John Burroughs has written voluminously, but it is not too much to say that he has written in all things well. It is for one either in sympathy with or directly antagonistic to Mr. Burroughs' views on certain things, to treat of his philosophical writing. They are commended or condemned according as one agrees or dissents. Mr. Burroughs may perhaps be best described as a fatalist, when it comes to a question of man here and hereafter. He will be known long after he has been given back to Mother Earth, by his books on the brooks, the flowers, and the birds which all readers alike love, rather than by the books which have put the printed page between two hostile camps of thought.

"Wake Robin" was one of the earliest, perhaps the earliest, of John Burroughs' books. It struck a new chord in the hearts of the people. White of Selborne, England, and Thoreau of Concord, Massachusetts, with a few others, were the only forerunners of Burroughs who knew how to write of Mother Nature in a way to win for her not only the interest but the loving sympathy of the reader. White was an Englishman writing in the eighteenth century. He had few American readers. Thoreau with all his beauty of expression was so much given to wandering into paths where the ordinary reader was lost that he could not attract as did John Burroughs the great following of those who wished to familiarize themselves with the trees of the forest, the beasts of the field, and the fowls of the air. "Locusts and Wild Honey," "Riverby," "Winter Sunshine," "Birds and Poets," "Fresh Fields," "Pepacton," and many other books have come since "Wake Robin," and many of them have more than repeated its success. John Burroughs loves that of which he writes. There is not a bird which in spring or fall, northward or southward flying and making a highway of the Hudson, he does not know as a father knows his favorite child.

"He saw the partridge drum in the woods;
He heard the woodcock's evening hymn;
He found the tawny thrush's broods;
And the sky hawk did wait for him."

John Burroughs' knowledge of the mammals is as intimate as his knowledge of the birds, but the reader always feels after closing one of his books, in which the ways of the beast and the bird and the beauty of the flower are told rarely and truthfully, that the most loving touch was that for the bards whose matin and vesper songs waked the writer's heart to gladness or lulled his mind to rest at the close of the troubling day.

John Burroughs lives at West Park, N. Y. His country place is called Riverby. It is a large estate with a fine residence building. Over in one secluded corner is a little rough cottage which the owner calls "Slab Sides." Burroughs built it; and, forsaking early in the spring the great house beyond, he goes to live at Slab Sides, for there during the season of the birds John Burroughs can get nearest to the warm heart of Nature.

Mr. Burroughs has the loves and the sympathies of the poet; but if the occasion demands, he can throw poetry to the winds and, to use a somewhat mixed

metaphor, he can go after an abuse with a rough-shod pen There has been a marked tendency during the last few years, since nature writers have become as numerous as the proverbial August blackberries, toward romancing in stories told about animal life. Many of the pleasantly written books which have come from the press within the last four or five years have been used by teachers for the instruction of the young in the ways of nature. Many of these stories are false upon the face of them, and have led young readers into error. There is no more reason why fiction should enter into zoology than into physiology.

John Burroughs recently attacked this romancing tendency in an article in *The Atlantic Monthly*. He singled out Ernest Thompson-Seton and William J. Long, both, as perhaps may go without saying, extremely popular writers of nature books. Burroughs did not mince matters. He said that if Mr. Seton and Mr. Long had been content to give out their stories as fiction pure and simple, all would have been well, but when they specifically claimed truth for them it was time that someone should pluck up the courage of his convictions and let the people who thought they were gaining knowledge of natural history know that they were being fed on fairy tales. As it was recently put by someone who spoke of this matter, "John Burroughs, while known rather as a naturalist than a taxidermist, shows proficiency in the latter art in the way that he skins Mr. Seton and Mr. Long." William J. Long recently made an answer to Mr. Burroughs' article in the public press. The friends of this clergyman-naturalist were disappointed when they read what he had to write, for it was an answer that did not answer. Mr. Seton did things differently. He met Mr. Burroughs after the attack on his books, at a dinner in New York, and holding out his hand asked the sage of Slab Sides if he would not sit next him at the table.

The Towhee (*Pipilo erythrophthalmus erythrophthalmus*)

By Alexander Wilson

Length, about 8¼ inches. Male mostly black, belly white. Female brown. Outer tail feathers white tipped.

Range: Breeds in the United States from Saskatchewan and southeastern Canada south to Central Kansas and northern Georgia; winters from southeastern Nebraska and the Ohio and Potomac southward.

The towhee is a frequenter of second-growth and of scrub, and when the visitor enters such precincts he is pretty sure to hear the challenging cry, "chewink," and to catch sight of the bird as it hurriedly dashes into some brushy thicket as if in mortal terror. The flight is hurried, jerky and heavy, as though the bird was accustomed to use its wings only in emergencies. This is not far from being the case, as the towhee sticks close to mother earth and uses its great strength and long claws to advantage in making the leaves and rubbish fly in its vigorous efforts to uncover the seeds and insects upon which it relies for food. The towhee thus literally scratches for a living as no other of our birds

does, except possibly the brown thrush, and the lazy man may well pass by the industrious ant and go to the towhee for inspiration. No one waxes enthusiastic over its musical ability, but the song is given with such right good will that it is sure to satisfy the hearer as, no doubt, it does the bird himself. Seton interprets it to a nicety with the phrase "chuck-burr, pill-a-will-a-will-a." The towhee includes in its bill of fare beetles and their larvæ, ants, moths, caterpillars, grasshoppers and flies, and also in Texas the boll weevil. Wild fruit and berries complete the list..

This is a very common but humble and inoffensive species, frequenting close sheltered thickets, where it spends most of its time in scratching up the leaves for worms and for the larvæ and eggs of insects. It is far from being shy, frequently suffering a person to walk round the bush or thicket where it is at work without betraying any marks of alarm, and when disturbed uttering the notes *towhé* repeatedly. At times the male mounts to the top of a small tree and chants his few simple notes for an hour at a time. These are loud, not unmuscial, somewhat resembling those of the Yellowhammer of Great Britain, but more mellow and more varied.

The Chewink is fond of thickets with a southern exposure, near streams of water, and where there are plenty of dry leaves, and is found generally over the whole of the eastern United States. He is not gregarious, and you seldom see more than two together. These birds arrive in Pennsylvania about the middle or 20th of April, and begin building about the first week in May. The nest is fixed on the ground among the dry leaves near and sometimes under a thicket of briars, and is large and substantial. The outside is formed of leaves and pieces of grape-vine bark, and the inside of fine stalks of dry grass, the cavity completely sunk beneath the surface of the ground and sometimes half covered above with dry grass or hay. The eggs are usually five, of a pale flesh color, thickly marked with specks of rufous, most numerous near the great end. The young are produced about the beginning of June, and a second brood commonly succeeds in the same season.

This bird rarely winters north of the State of Maryland, retiring from Pennsylvania to the south about the 12th of October. Yet in the middle districts of Virginia and thence south to Florida, I found it abundant during the months of January, February and March. Its usual food is obtained by scratching up the leaves; it also feeds, like the rest of its tribe, on various hard seeds and gravel, but rarely commits any depredation on the harvest of the husbandman, generally preferring the woods and traversing the bottom of fences sheltered with briars. In Virginia it is called the Bulfinch, in many places the Towhé-bird, in Pennsylvania the Chewink, and by others the Swamp Robin. He contributes a little to the harmony of our woods in spring and summer, and is remarkable for the cunning with which he conceals his nest. He shows great affection for his young, and the deepest distress on the appearance of their mortal enemy, the black snake.

TOWHEE

The Sandpiper

By Celia Thaxter

Across the narrow beach we flit,
  One little sandpiper and I;
And fast I gather, bit by bit,
  The scattered driftwood bleached and dry.
The wild waves reach their hands for it,
  The wild wind raves, the tide runs high,
As up and down the beach we flit
  One little sandpiper and I.

Above our heads the sullen clouds
  Scud black and swift across the sky;
Like silent ghosts in misty shrouds
  Stand out the white light-houses high.
Almost as far as eye can reach
  I see the close-reefed vessels fly,
As fast we flit along the beach,—
  One little sandpiper and I.

I watch him as he skims along,
  Uttering his sweet and mournful cry;
He starts not at my fitful song,
  Or flash of fluttering drapery;
He has no thought of any wrong;
  He scans me with a fearless eye.
Stanch friends are we, well tried and strong,
  The little sandpiper and I.

Comrade, where wilt thou be tonight
  When the loosed storm breaks furiously?
My driftwood fire will burn so bright!
  To what warm shelter canst thou fly?
I do not fear for thee, though wroth
  The tempest rushes through the sky;
For are we not God's children both,
  Thou, little sandpiper and I?

How the Library May Stimulate Local Bird Study

By Ida M. Mendenhall.

The real work that counts in stimulating local nature study must be done in the library. The librarian cannot do it alone, but with the help of club women, nature lovers, college students, and local natural history enthusiasts, she may bring to the library these various interests and thus make the library the vital educational center of the community.

The following are some suggestions of ways by which the library may interest children in a study of the birds of the locality:

1. A special corner, table, bulletin-board, and book shelf devoted to the subject of birds, where children may look for and expect something interesting each day.

2. A bird calendar, on which the dates of the arrival of birds is kept by the children themselves.

A black-board, bulletin-board, or large sheet of paper may be used for these records. A list of the birds likely to appear during the month may be printed on the board or sheet of paper and the children may check each day the birds seen by them for the first time. The record of these dates of arrival should be preserved and at the end of two or three years they may be printed in folder form, that the child may continue each year to keep for himself this same record. The calendar of bird migration giving the record of the spring observations, published by the Springfield, Mass., Library, will be interesting to librarians. Lincoln Park, Chicago, publishes a bulletin of bird migration for the use of the Chicago schools. Lists of birds, with space for a note of the date, weather, and locality, are used by the University of Illinois in field work in local bird study.

3. Exhibit of bird pictures in the library.

Rather than a large exhibit of miscellaneous bird pictures, it is better to show pictures of the birds as they arrive. Just before the time for the appearance of a bird, its picture together with typewritten copies of poems about the bird and a short interesting description may be posted on the bird bulletin-board. This description should always tell of the food and habits of the bird. A typewritten list may also be posted referring to the exact pages in the books best describing the bird, or containing poems about it, and these books may be kept on the special shelf near the bird bulletin or on the table. Books may be placed on the table open at a picture or good description of the bird or a poem about it. Children will not always take the trouble to search for a book, but if it can be found easily near the picture, the book will be taken home and read.

4. Talks by a bird lover given at the library.

There is always some one in every community interested in birds. The

librarian herself, if a bird lover, even though she is not an authority, may find material in the best books for interesting talks on identification of birds, bird habits, food and homes, effect of storms on migration, birds that fly by day and those that fly by night, adaptation of birds to flight, protective coloration, and economic value of birds. At the time of the talks the bulletin-board may be used for poems, pictures, diagrams or charts illustrating the subject, and the special table and shelf used for best books. A diagram showing the different parts of the bird will be useful in a talk on adaptation of birds to flight, and a table giving the birds that fly by day and those that fly by night will be interesting in connection with that subject. The bulletin of the Children's Museum in Brooklyn will be very suggestive in planning a course of talks on birds.

5. A bird club which comes to the library for talks on birds, and makes at the library the beginnings of a museum from the collections of its excursions.

It must be understood that bird nests and eggs should be collected only for scientific purposes. A collection of bird specimens could be made only by an ornithologist. The life histories of insects and specimens of birds may be had from special dealers in the large cities. Even a very small collection, if giving accurately the life history of insects, and showing specimens in their natural environment, will be valuable. Such a museum as a part of the library is coming to be indispensable in the work with children in the schools. The protection and encouragement of birds and the preservation of forests, trees, and shrubbery for their homes, should result from the study of the bird club and the talks given by a bird authority.

6. Field work in a winter study of birds' nests.

Since winter birds are not easy for the beginner and since there are not many to study unless one knows just where to look for them, a study of birds' nests can be made. At this season of the year, although there will be difficulty in identifying them after they have been so long abandoned, the nests can be taken without stealing and can be found easily, when they might not have been observed in summer. Careful questions regarding a few typical nests will arouse the child's interest in the birds when they return. In studying the robin's nest, its shape and color, the relation between the color of the nest and the color of the brooding bird's back and environment may be worked out by the pupils. The song-sparrow's, meadow lark's, woodpecker's, and other nests may be studied in the same way . This will teach the children observation and train them in the inductive method of study. The adaptability of the nest and the color of the bird to its environment is a subject which the children may investigate for themselves, after their attention has been called to it in field study. Nothing can take the place of field work in bird study.

7. Prizes offered by the library to pupils in the schools for the best paper recording actual observations of a local bird or birds.

The prize composition should be kept by the library, posted on the bird bulletin-board, and printed in the town or city paper.

8. Publishing in the local paper what the library is doing for the children in the schools in studying the birds of Indiana.

Special announcement should be made of the talks on birds given at the library, the prizes for the best bird compositions, exhibits of bird pictures, and new bird books received. The library must make the subject interesting and the new and best books on birds conspicuous. It is not sufficient for the library to be a store house of books. It must call the attention of people to its new and best books by advertising them and placing them where they may be seen.

The Canadian Warbler (*Wilsonia canadensis*)

By W. Leon Dawson

Length: 5½ inches.

Range: Eastern North America, west to the Plains and north to Newfoundland, Labrador and Winnipeg.

Food: Mostly insects.

The male is active about the nest and feeds the female while she is incubating.

Among the later migrants may usually be seen each season a few of these exquisite fly-catching warblers. In their breeding haunts, which lie far to the north of us, they range low in the bushes and often descend to the ground, but when traveling they seem to find better company in the treetops, and appear very much at home there. There is something so chaste in the clear yellow of the throat and chest, spanned though it is by a dainty necklace of jet, and something so modest and winsome withal in the bird itself, that some of us go into reverent ecstasies whenever we see one of them

The song is only occasionally rendered during the migrations, but seems to increase in frequency, as we should expect, as the bird proceeds northward. Some have likened it to that of the Yellow Warbler, but to my ears it bears a strong generic resemblance to that of the Hooded Warbler. At any rate, it is clear, sprightly and vigorous. Chut, tutooit, tutooeet is one rendering, probably less characteristic and complete than Mr. Thompson's classical interpretation, "Rup-it-chee, rup-it-chee, rup-it-chit-it-lit."

The Canadian is among the earliest of the returning warblers, having been seen as early as August 24th. At this season the species is somewhat puzzling, by reason of the frequent absence, or half suppression, of the characteristic necklace. On the return journey, also, the birds are much more apt to be found in thickets, or low in well watered glens.

CANADIAN WARBLER.
(Sylvania canadensis)
About Life-size

Yellow-Throated Vireo (*Lanivireo flavifrons*)

Length, about 6 inches. Its green upper parts and bright yellow throat and upper breast are its identification marks.

Range: Breeds from southern Canada south to central Texas, central Louisiana and central Florida; winters from southern Mexico through Central America.

By no means so common as the red-eye, the yellow-throat inhabits the same kind of woodland tracts and like it may often be seen, and still oftener heard, in the trees that shade the village or even the city streets. It is, however, much less common in such places since the advent of the English sparrow, having been driven away by that little pest. Its song is much like that of the red-eye, yet it has a rich throaty quality quite foreign to the notes of that tireless songster and far superior to them. Neither this, nor indeed any of the vireos, ever seem to be in a hurry. They move quietly through the leafy covert, scanning the most likely lurking places for insects, pausing now and then to sing in a meditative manner, then renewing their quest. All of which is as different as possible from the busy, nervous movements of the wood warblers, that seem ever in haste as though time were much too precious to waste.

The food of the yellow-throat consists of a large variety of insects, including caterpillars, moths and beetles, and also those well-known pests, flies and mosquitoes. It also eats the plum curculio.

Maryland Yellow-Throat (*Geothypis trichas and variety*)

Length about 5 1/3 inches. Mostly green above, yellow below. Distinguished from other warblers by broad black band across forehead, bordered narrowly with white.

Range: Breeds from southern Canada to southern California, Texas and Florida; winters from the southern United States to Costa Rica.

This little warbler is common throughout the eastern and southern states, frequenting thickets and low bushes on swampy ground. He is not a tree lover, but spends most of his time on or very near the ground, where he hunts assiduously for caterpillars, beetles and various other small insects. Among the pests that he devours are the western cucumber beetle and the black olive scale. He has a cheery song of which he is not a bit ashamed, and, when one happens to be near the particular thicket a pair of yellow-throats have chosen for their own, one has not long to wait for vocal proof that the male, at least, is at home. The yellow-throat has the bump of curiosity well developed and if you desire a close acquaintance with a pair you have only to "squeak" a few times, when you will have the pleasure of seeing at least one of the couple venture out from the retreat far enough to make sure of the character of the visitor.

The Rose-Breasted Grosbeak (*Zamelodia ludoviciana*)

By I. N. Mitchell

Length, 8 inches.

Range: Breeds from Kansas, Ohio, Georgia (mountains), and New Jersey, north to southern Canada; winters from Mexico to South America.

Habits and economic status: This beautiful grosbeak is noted for its clear, melodious notes, which are poured forth in generous measure. The rosebreast sings even at midday during summer, when the intense heat has silenced almost every other songster. Its beautiful plumage and sweet song are not its sole claim on our favor, for few birds are more beneficial to agriculture. The rosebreast eats some green peas and does some damage to fruit. But this mischief is much more than balanced by the destruction of insect pests. The bird is so fond of the Colorado potato beetle that it has earned the name of "potato-bug bird," and no less than a tenth of the total food of the rosebreasts examined consists of potato beetles—evidence that the bird is one of the most important enemies of the pest. It vigorously attacks cucumber beetles and many of the scale insects. It proved an active enemy of the Rocky Mountain locust during that insect's ruinous invasions, and among the other pests it consumes are the spring and fall canker-worms, orchard and forest tent caterpillars, tussock, gipsy and brown-tail moths, plum curculio, army worm, and chinch bug. In fact, not one of our birds has a better record.

It is indeed a red-letter day that brings the acquaintance of this beautiful bird. Here, again, the beginner feels the pleasure of certainty. There is no painstaking comparison and study of details as among the sparrows or thrushes. It is like shooting at a barn from the inside of the barn. A rose-colored breast and a gross bill, how could anything be more delightfully direct and simple? To see him is to know him.

Not so, however, with his mate. She shows her relationship to the sparrows, and were it not for her very stout bill would be much more frequently mistaken for one of them.

The illustration is excellent both of birds and nest. The latter is noticeable for the looseness of its structure and the absence of the lining of feathers, hair, plant down or other soft, warm material that so many birds use. This nest seems unusually well made for a grosbeak's nest. It appears to be actually anchored or tied to the limbs upon which it rests. In speaking of the nest of this bird Mr. Dugmore says: "The nest when found will probably cause some surprise by the apparently insecure manner in which it is placed. Most birds weave their nests around branches or vines, but the grosbeaks seldom take such precaution; they usually build their nests in or on the fork of a branch from which it may be removed without disturbing it in any way."

Fortunately for those who now enjoy the acquaintance of this beautiful bird,

ROSE-BREASTED GROSBEAK
(Habia ludoviciana).
[illegible]

and equally so to those who are seeking it, he is not at all shy, but will sit placidly and allow his admirers to approach within a few feet to exhaust themselves of their ohs and ahs, and "isn't he a beauty!"

A few springs ago, we were leading a score of bird hunters through a city park. We had been charmed with warblers; the oriole and tanager had given us the opportunity of deciding which is the most brilliantly colored bird in Wisconsin; the catbird and thrasher had given us samples of their wonderful songs, and yet the company was not quite contented and pushed into a thicket. Soon a hush was whispered along the line; the company tip-toed into the thicket scarcely venturing to breathe. Every one got a good, satisfying, soul-filling view at close range. We passed on deeper into the copse, to come upon even greater fortune—two males and a female were discovered not more than ten feet over our heads. The whole score gathered under the tree and filled the eyes to satisfaction or nearly so, rather, for one of the party asked if the wings weren't lined with the rose-red. For answer we proposed making the birds take wing and asked the friends to watch. The cover of a lunch box was tossed gently into the tree, but not a wing was spread. Then we hurled the box after the lid with somewhat greater force, and to this day not one of the party is any wiser for the experiment. The birds departed in so much less than the twinkling of an eye that seeing color was out of the question.

Mr. Bradford Torrey once found a nest in a clump of witch-hazel bushes about eight or nine feet from the ground with the female upon it and the male singing near by. He says: "I took hold of the main stem just below her, and drew her toward me, but she would not rise. I had no heart to annoy her, so I called her a good, brave bird and left her in peace. Her mate, all this while, kept on singing; and to judge by his behavior, I might have been some honored guest to be welcomed with music. The simple-hearted—not to say simple-minded—fearlessness of this bird is really astonishing.

But fearlessness and beauty are only two of the grosbeak's attractions. Bird writers agree in placing him among a very select few of our songsters. Mr. Dutcher calls it "a glory of song." Mr. Bowdish says, "His song has a charm that is rivalled only by the melody of a very few of our feathered vocalists." Mr. C. C. Abbott says, "My fancy is that this Rose-breasted Grosbeak is our finest singer;" while Mr. Torrey pays this graceful tribute, "It was singing to be remembered, like Sembrich's 'Casta Diva' or Nilsson's 'I know that my Redeemer liveth.'" The male adds to our good opinion of him by sharing in the care of the eggs and even singing while doing so, and, finally, appeals to the farmer by making a specialty of the potato bug on his bill of fare.

A Plea for the Bluejay

By Victor Kutchin

Only the people who have spent a lifetime in the study of nature realize how little they know about it. On the other hand the definite, complete and all embracing information seems to belong to certain happy individuals who have given scarcely a passing thought to the wonder world about us. The real character, life history, and economic value of even our common birds still demands further observation and closer study, and so-called final conclusions must in the nature of the case contain a large element of conjecture. The pitiful thing about all this is that it results in many of our bird neighbors being the objects of prejudice, perhaps the bluejay most of all. Waiving all other specifications the general charge that he drives away other birds, and robs their nests, is sufficiently grave to demand careful examination. The Biological Survey—the birds' supreme court—has fortunately made such investigation, and the report is to be found in the year book of the United States Department of Agriculture for 1896. The stomachs of 292 jays all taken within one year in 22 states, Canada, and the District of Columbia, were examined with the following results. Three were found to contain the fragments of the shells of birds' eggs, and two fragments of the bodies of other birds. One of those containing fragments of another bird, bones of a foot, claws and a little skin, probably the remains of a cat's supper, could scarcely have been the result of nest robbing, as the stomach was taken from a jay killed February 10th, a period remote from the breeding season. One of the three containing shells was taken in October; they seemed to be the shells of a large bird, probably a grouse, and from the time of year was undoubtedly a fragment of shell from a long deserted nest. Another stomach that contained shells was from a jay taken late in August, and the season of the year would indicate that the fragments were also found in a deserted nest. So in the 292 examinations, we practically find but two individuals that might have been guilty of the heinous crime of robbing other birds' nests of eggs and young. In view of the fact that birds which die in the nest are at once thrown out by the wise mother bird, it is impossible to say that the fragment of the young bird was not found dead on the ground. Again it is true to the observation of us all, that birds' eggs are often broken and are more or less plentiful on the ground during the breeding season. From all this it should appear that the evidence against the jay is scarcely stronger than the shell of a hummingbird's egg.

That there are individual criminals among every type of life, not exempting the highest, man, it would be folly to deny, but in face of all the evidence on the other side, to maintain, because individual jays may have robbed nests, that all jays are nest robbers, is like claiming because Captain Kidd was a pirate that all men are pirates. Disregarding all that Tennyson wrote in the idealization of

human character, shall we draw the inference that he really believed all men to be devils, because he wrote "In a Vision of Sin:"

Virtue—to the good and just
Every heart when sifted well
Is a clot of warmer dust
Mixed with cunning sparks of Hell.

Generalizations from a single individual or instance cannot fail to be unjust.

The writer, after forty years of persistent observation and study of the jay, having had an acquaintance that was cordial if not intimate with many individuals, has utterly failed to find a particle of evidence going to prove that the jay family is either destructive or in any way detrimental to bird life in general. On the other hand, he has in at least half a dozen instances known them to nest in the same tree with other birds, and to disturb neither eggs nor young; and, as a matter of fact, jays seem to get along better with their neighbors than human creatures do who live in small towns.

Not content with the Scotch verdict of "not proven," I wish to give my personal opinion of the jay based on my own observation. I regard him as the most wide-awake, up-to-date, and philanthropic citizen of the bird kingdom. To me he possesses both knowledge and wisdom and my pet name for him is "Yorick," "a fellow of infinite jest and most excellent fancy." He is no mean mimic under certain circumstances, especially in captivity; and were any other bird to attempt to tell him something new, I can fancy him yawning and going to sleep in church. All the secrets of the woods are open secrets to him. The hawk, the red squirrel, and the weasel resent his disposition to bring their deeds to light, and are about his only enemies among wood folk. He seems to be aware of the fact that humanity distrusts him, and he rewards our distrust, by still greater distrust of us. Take a gun and dog and start for the woods, and a certain blue-coated policeman is there before you to warn all living things against you. Let an owl secrete himself in a cedar tree on the lawn, and it is the jay that spies him out before the day is many minutes old, and summons all creation to help put him to rout. Perhaps the best thing that can be said for the jay is that his bird neighbors who have a right to know him better than human creatures, believe in his warnings and rely on his protecting watch-care. Does it really not seem too bad that in spite of his splendid self-reliance and ability to care for himself, if prejudice could have its way it would rob the world of its only bit of blue on sunless winter days?

The Bob-White (*Colinus virginianus*)

By John James Audubon

Length: 10 inches.

Range: Eastern United States, Ontario, Maine to south Atlantic and Gulf states, west to South Dakota, Kansas and Texas.

Nest, on the ground. Eggs, 10 to 20, usually about 18.

As a weed destroyer Bob-White has few if any superiors. During the insect season his food consists of almost entirely of beetles, weevils, bug, grasshoppers, cut worms and other pests of agriculture.

The common name given to this bird in the eastern and middle districts of our Union is that of the Quail, but in the western and southern states it is called the Partridge. It is abundantly met with in all parts of the United States, but more especially toward the interior. In the states of Ohio and Kentucky, where these birds are very abundant, they are to be seen in the markets both dead and alive in large quantities.

This species performs occasional migrations from the northwest to the southeast, usually in the beginning of October, and somewhat in the manner of the Wild Turkey. For a few weeks at this season the northwestern shores of the Ohio River are covered with flocks of Quails. They ramble through the woods along the margin of the stream and generally fly across toward evening. Like the Turkeys, many of the Partridges fall into the water while thus attempting to cross, and generally perish, for although they swim surprisingly, they have not muscular power sufficient to keep up a protracted struggle, although when they have fallen within a few yards of the shore they easily escape being drowned. I have been told by a friend that a person residing in Philadelphia had a hearty laugh on hearing that I had described the Wild Turkey as swimming for some distance when it had accidentally fallen into the water. But almost every species of land bird is capable of swimming on such occasions, and you may easily satisfy yourself as to the accuracy of my statement by throwing a Turkey, a common fowl, or any other bird, into the water. As soon as the Quails have crossed the principal streams in their way, they disperse in flocks over the country and return to their ordinary mode of life.

The flight of these birds is generally performed at a short distance from the ground. It is rapid and is continued by numerous quick flaps of the wings for a certain distance, after which the bird sails until about to alight, when again it flaps its wings to break its descent. When chased by dogs or startled by any other enemy, they fly to the middle branches of trees of ordinary size, where they remain until danger is over. They walk with ease on the branches. If they perceive that they are observed, they raise the feathers of their head, emit a low note and fly off either to some higher branch of the same tree or to another tree at a distance. When these birds rise on wing of their own accord the whole flock takes the same course, but when "put up" (in the sportsman's phrase) they disperse; after alighting, call to each other, and soon after unite, each running or flying toward the well-known cry of the patriarch of the covey. During deep and continued snows they often remain on the branches of trees for hours at a time.

The usual cry of this species is a clear whistle, composed of three notes; the first and last nearly equal in length, the latter less loud than the first, but more

BOB-WHITE.
(Colinus virginianus)
⅔ Life-size

so than the intermediate one. When an enemy is perceived they immediately utter a lisping note, frequently repeated, and run off with their tail spread, their crests erected and their wings drooping, toward the shelter of some thicket or the top of a fallen tree. At other times, when one of the flock has accidentally strayed to a distance from its companions it utters two notes louder than any of those mentioned above, the first shorter and lower than the second, when an answer is immediately returned by one of the pack. This species has, moreover, a love call, which is louder and clearer than its other notes and can be heard at a distance of several hundred yards. It consists of three distinct notes, the last two being loudest, and is peculiar to the male bird. A fancied similarity to the words "bob white" render this call familiar to the sportsman and farmer, but these notes are always preceded by another, easily heard at a distance of thirty or forty yards. The three together resemble the words *ah-bob-white*. The first note is a kind of aspiration, and the last is very loud and clear. This whistle is seldom heard after the breeding season, during which an imitation of the peculiar note of the female will make the male fly toward the sportsman.

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

The female prepares a nest composed of grasses, arranged in a circular form, leaving an entrance not unlike that of a common oven. It is placed at the foot of a tuft of rank grass or some close stalks of corn, and is partly sunk in the ground. The eggs are from ten to eighteen, rather sharp at the smaller end, and of a pure white. The male at times assists in hatching them. This species raises only one brood in the year, unless the eggs or the young when yet small have been destroyed. When this happens the female immediately prepares another nest, and should it also be ravaged, sometimes even a third. The young run about the moment they make their appearance, and follow their parents until spring, when, having acquired their full beauty, they make nests for themselves.

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

Bob White's best known call notes are: *Bob-white*, *bob-bob-white* and *more wet* or *no more wet*.

The Yellow-Breasted Chat (*Icteriavniers*)

By Henry W. Henshaw

Length, about 7½ inches. Its size, olive-green upper parts and bright yellow throat, breast, and upper belly distinguish this bird at a glance.

Range: Breeds from British Columbia, Montana, Wisconsin, Ontario and southern New England south to the Gulf States and Mexico; winters from Mexico to Costa Rica.

The chat is one of our largest and most notable warblers. It is a frequenter of brushy thickets and swampy new growth and, while not averse to showing itself, relies more upon its voice to announce its presence than upon its green and yellow plumage. Not infrequently the chat sings during the night. The song, for song we must call it, is an odd jumble of chucks and whistles which is likely to bring to mind the quip current in the West, "Don't shoot the musician; he is doing his best;" in this same charitable spirit we must accept the song of the chat at the bird's own valuation, which, we may be sure, is not low. Its nest is a rather bulky structure of grasses, leaves and strips of bark and is often so conspicuously placed in a low bush as to cause one to wonder how it ever escapes the notice of marauders fond of birds' eggs and nestlings.

The chat does no harm to agricultural interests but, on the contrary, like most of the warbler family, lives largely on insects, and among them are many weevils, including the alfalfa weevil, and the bool weevil, so destructive to cotton.

This is a most singular bird. In its voice and manners it differs from most other birds with which I am acquainted, and has considerable claims to originality of character. It arrives about the first week in May and returns to the south again as soon as its young are ready for the journey, which is usually about the middle of August, its term of residence here being scarcely four months. The males generally arrive several days before the females, a circumstance common with many other of our birds of passage.

When he has once taken up his residence in a favorite situation, which is almost always in close thickets of hazel, brambles, vines, and thick underwood, he becomes very jealous of his possessions. He seems offended at the least intrusion, scolding every passer-by in a great variety of odd and uncouth monosyllables which it is difficult to describe, but which may be readily imitated so as to deceive the bird himself and draw him after you for a quarter of a mile at a time. I have sometimes amused myself in doing this, and frequently without once seeing the bird. On these occasions his responses are constant and rapid, strongly expressive of anger and anxiety; and while the Chat itself remains unseen, the voice shifts from place to place among the bushes as if it proceeded from a spirit. First are heard a repetition of short notes, resembling the whistling of the wings of a duck or teal, beginning loud and rapid and falling lower and lower till they end in detached notes. Then a succession of other notes, some-

YELLOW-BREASTED CHAT.
$\frac{1}{4}$ Life size.

thing like the barking of young puppies, is followed by a variety of hollow guttural sounds each eight or ten times repeated, more like those proceeding from the throat of a quadruped than that of a bird; these in turn are succeeded by others not unlike the mewing of a cat, but considerably hoarser. All these are uttered with great vehemence, in such different keys, and with such peculiar modulations of voice, as sometimes to seem far away and again as if just beside you, now on this hand, now on that; so that from these maneuvers of ventriloquism you are utterly at a loss to ascertain from what particular quarter they proceed.

About the middle of May the Chats begin to build. The nest is usually fixed in the upper part of a bramble bush, in an almost impenetrable thicket; sometimes in a thick vine or small cedar; sometimes not more than four or five feet from the ground. It is composed outwardly of dry leaves; within these are laid thin strips of bark of grapevines, and the inside is lined with fibrous roots of plants and fine dry grass. The females lay four eggs, slightly flesh colored and speckled all over with spots of brown or dull red. The young are hatched in twelve days, and make their first excursion from the nest about the second week in June.

While the female of the Chat is sitting, the cries of the male are still louder and more incessant.

Barn Owl (*Aluco pratincola*)

Length, about 17 inches. Facial disk not circular as in other owls; plumage above, pale yellow; beneath, varying from silky white to pale bright tawny.

Range: Resident in Mexico, in the southern United States, and north to New York, Ohio, Nebraska, and California.

Habits and economic status: The barn owl, often called monkey-faced owl, is one of the most beneficial of the birds of prey, since it feeds almost exclusively on small mammals that injure farm produce, nursery, and orchard stock. It hunts principally in the open and consequently secures such mammals as pocket gophers, field mice, common rats, house mice, harvest mice, kangaroo rats, and cotton rats. It occasionally captures a few birds and insects. At least a half bushel of the remains of pocket gophers have been found in the nesting cavity of a pair of these birds. Remembering that a gopher has been known in a short time to girdle seven apricot trees worth $100 it is hard to overestimate the value of the service of a pair of barn owls. 1,247 pellets of the barn owl collected from the Smithsonian towers contained 3,100 skulls, of which 3,004, or 97 per cent, were of mammals; 92, or 3 per cent, of birds; and 4 were of frogs. The bulk consisted of 1,987 field mice, 656 house mice, and 210 common rats. The birds eaten were mainly sparrows and blackbirds. This valuable owl should be rigidly protected throughout its entire range.

The Red-Shouldered Hawk (*Buteo lineatus lineatus*)

By W. Leon Dawson

Length: 18½ inches.

Range: Eastern North America to Manitoba and Nova Scotia, west to Texas and south to the gulf states.

Food: Mice, insects, moles and other small mammals, reptiles, spiders. A hawk of value to the farmer.

The common names of the birds of prey are sadly confused in America. We seldom use the noble word Falcon, although it strictly applies to many of our species; we call our Vultures, Buzzards; and our proper Buzzards are merely "Hawks" or "Hen Hawks." The Red-Shouldered Buzzard is, after the Sparrow Hawk, the commonest bird of prey in the state. It is well distributed, since it is content to occupy, if need be, a very small piece of woodland, but it does insist upon having undivided possession of that little, at least so far as other birds of the same species are concerned.

From this little stretch of woodland, however humble, the Buzzard sallies forth at intervals to view the landscape o'er, moving forward vigorously to a well-accustomed haunt, or else circling aloft above the home woods to an immense height, and then drifting away across the country in great, lazy, sun-burned circles, until the sight of game calls it down. Although its station is so lofty, the prey it seeks is usually of the humblest—moles, mice, gophers, lizards and insects. Poultry is rarely taken and then only under extenuating circumstances, as when a chick has disobeyed its mother's injunctions and gone too far afield.

Red-shouldered Hawks winter regularly from about the middle of the state southward and casually to lake shore, but everywhere in diminished numbers. The winter birds are probably from the extreme northern limits of the range in Ontario, and I have fancied that it was on this account that they showed a tendency to temporary albinism, or seasonal whitening of plumage. The return journey is accomplished late in February or early in March, and by the middle of the latter month most of the Hawks are mated. This has not been accomplished without considerable aerial evolutions and much affectionate screaming, such as does credit to these "ignoble" birds of prey.

For the nest an old domicile of the Crow is often pressed into service, but where the birds have little to fear in propria persona, they rear an unpretentious structure of their own where spreading branches of beech or oak or elm offer secure lodgment, close to the trunk or a little way removed. In case a Crow's nest is used its undesirable concavity is filled up with additional bark-strips, cornhusks, or dead leaves, so that the eggs of the Hawk occupy only a slight depression. Fresh eggs may be looked for about the middle of April. Only one brood is regularly raised in a season, but in case the first eggs are destroyed the birds will make one or two more attempts. Incubation lasts about four

weeks and is attended to by both birds. As the operation progresses feathers drop out increasingly from the birds' breasts, so that a well-feathered nest means eggs nearly ready to hatch. When disturbed the parent birds keep up a pitiful complaining, but usually from a safe distance.

The eggs, varying in number from two to six, are among the best known of Hawks' eggs and present interesting variations, both in size, in shape and in the amount of pigmentation. It is time, however, to call a halt upon the indiscriminate gathering of Hawks' eggs. The museums are loaded down with them and nine-tenths of those annually levied upon in the name of boyish curiosity are destined to find their way into mouse nests or discarded boxes of sawdust.

The Nightingale and Glowworm

By William Cowper

A nightingale, that all day long
Had cheered the village with his song,
Nor yet at eve his note suspended,
Nor yet when eventide was ended,
Began to feel, as well he might,
The keen demands of appetite;
When, looking eagerly around,
He spied far off, upon the ground,
A something shining in the dark,
And knew the glowworm by his spark;
So, stooping down from hawthorn top,
He thought to put him in his crop.
The worm, aware of his intent,
Harangued him thus, right eloquent:
"Did you admire my lamp," quoth he,
"As much as I your minstrelsy,
You would abhor to do me wrong,
As much as I to spoil your song;
For 'twas the selfsame power divine
Taught you to sing and me to shine;
That you with music; I with light,
Might beautify and cheer the night."
The songster heard his short oration,
And warbling out his approbation,
Released him, as my story tells,
And found a supper somewhere else.

The Black Tern (*Hydrochelidon nigra surinamensis*)

By Gerard Alan Abbott

Length: 9½ inches.

Range: Temperate and tropical America, from Alaska to Brazil.

Food: Mostly insects, dragonfly nymphs, grasshoppers, beetles, small fishes.

In some of the prairie states the Black Tern seems to be a sort of connecting link between the birds of land and water.

The Black Tern, the only dark plumaged member of the gull or tern family inhabiting the interior portions of North America, breeds from the Gulf of Mexico to upper Canada, and from the Atlantic to the Pacific coasts, nesting even within corporate limits of Chicago.

While gregarious, they are found in smaller groups than most of our long-winged swimmers. Largely insectivorous, they capture their prey in the air. They also plunge into the water after small minnows and other marine life. Although the feet are webbed, these birds seldom swim except perhaps when migrating across large bodies of water. Their call note is a harsh shriek uttered incessantly if one intrudes upon their nesting sites, usually in marshy places, preferably open country, free from timber. The nests are constructed of decayed vegetation, dead flags and rushes, often a mere depression on a partially submerged muskrat house containing the two or three dark yellowish eggs, heavily and thickly blotched with shades of lilac and very dark brown. These birds have a habit of rolling their eggs in the wet earth and vegetation, thereby rendering them less conspicuous. I have known the birds to arrange a little nest on the top of an old grebe's nest. Often the water is several feet deep where the nests are made, but the growing reeds and rushes allow the water to remain more or less stagnant so the eggs are seldom disturbed by waves.

Sparrows and Sparrows

By Joseph Grinnell

No bird, unless it be the crow, is so nicknamed as the sparrow. None is so evil spoken of, none so loved. Accepted enemy of the farmer, it is the farmer's dearest friend.

It is a good, large family, that of the sparrows, ninety or more varieties occurring in the United States. Always, of whatever tint or markings, it is recognized by its stout, stalky shape, short legs, and strong feet; but more surely by its bulging, cone-like bill, pointed toward the end. This beak is the bird's best characteristic, just as a certain nose is the leading feature of some human families. And there is character in a sparrow's nose. It is used for original research and investigation, on account of which the sparrow, of all the

BLACK TERN.
(Hydrochelidon nigra surinamensis).
⅔ Life-size.

birds, deserves the degree of doctor of philosophy conferred upon him; omitting, of course, one single member of the family, the English sparrow. And why the English sparrow should come in for any notice among the song-birds we cannot tell, unless it be the fact that it really does haunt them, and they have to put up with it almost everywhere they go. Surely it needs no picture to introduce this little vagrant, save in a few regions sacred as yet from its presence. Even this little foreign rogue has lovable traits, were it not for the prejudice against him. What persistence he has in the face of persecution and death! What philosophy in the production of large families to compensate for loss! What domestic habits! What accommodation to circumstances! What cheerful acceptance of his lot! Surely the English sparrow presents an example worthy of imitation.

To those whose preferences are for cooked little birds, what suggestions are stirred by the hosts of these sparrows invitingly arrayed on roof and porch and fences. They make as good pot-pie as the bobolink or robin, and it would seem less sacrilege to so appropriate them. The rich and poor alike might indulge in the delicacy. Especially might the weak little starvelings in the cities, whose dipper of fresh, new milk is long in coming, or never to come at all, find a sparrow broth a nourishing substitute. Who knows but for this very purpose the birds are sent to the large cities. We read of a story of "quails" in a certain Old Book, and more than half believe the wonderful tale. Why not make a modern story of sparrows sent "on purpose" and cultivate a taste for the little sinner? And its eggs! Why, a sparrow hen will lay on, indefinitely, like a real biddy. Only be sure to respect the "nest-egg," so the old bird may have one always by her "to measure by."

Think of the "little mothers" of the big cities, raising baby weaklings on sparrow broth and poached sparrow's eggs. It is a pity to waste such fat, little scraps of meat as are thrown about. Besides, making good use of the birds, if they must be killed, is good for the soul of boys. It would teach them thrift and a good purpose. Our best ornithologists declare the English sparrow "a nuisance without a redeeming quality." Pity they hadn't thought about the pie.

But there are sparrows and sparrows. Some of the family are our sweetest singers. Take the song-sparrow, the bird of the silver tongue. It is known throughout the Eastern United States and Canada; and on the Pacific coast and elsewhere it is still the song-sparrow, though it varies slightly in color in different regions. In many states it remains all winter, singing when the snow is falling, and keeping comradeship with the chickadee.

Everybody knows the little fellow by his voice if not by his coat. Nothing fine about the coat or gown save its modest tints. But, as with many another bird of gray or brown plumage, its song is the sweetest. Hearty, limpid, cheerful in the saddest weather, always ending in the melody of an upward inflection, as if he invited answer.

The song-sparrow is the only one we have noticed to gargle the song in its throat, swallowing a few drops with each mouthful; or it may be that he stops

to take a breath between notes. We have seen him sing, sprawled flat on a log in a hot day, with wings outspread, and taking a sun bath. The song is always very brief, as if he would not tire his listeners, though he gives them an encore with hearty grace. Individual birds differ in song, no two singing their dozen notes exactly alike.

While his mate is patiently waiting to get the best results from her four or five party-colored eggs, the song-sparrow sings constantly, never far from the nest in the bush or the low tree, or even on the ground, where cats are debarred from the vicinity. One never can depend on the exact color of the eggs, for they vary in tint from greenish white to browns and lavender, speckled or clouded, "just as it happens."

And the feathers of the birds have all these colors mingled and dotted and striped, and dashed off, as you may see for yourself, by looking out of the window or taking a still stroll down along the creek.

The song-sparrow has a pert little way of sticking its tail straight up like a wren when it runs—and it is always running about. In our grounds they follow us like kittens, keeping up their happy chirp as if glad they ever lived and were blessed with feet and a beak.

The nest of the song-sparrow is compact and snug, with little loose material about the base of it. We have had a long hunt many a time to find it. If we are in the vicinity of it the two birds follow us, chirping, never going straight to the nest, but wandering as we wander, picking up food in the way, and appearing to hold a chatty conversation. It is not evident that they are trying to conceal the fact that they have a nest and that we are near it; for if we sit down and wait, the mother goes straight to it without a sign of fear. But we must wait a long while sometimes, until dinner is over, for these birds seem to remain away from the nest longer at a time than most birds do. They feed their young on larvæ, pecked out of the loose earth, and tiny seeds from under the bushes, or soft buds that have fallen. They pick up a whole beakful, never being satisfied with the amount collected. So it drips from the corners of their mouths in an odd fashion, and some of it escapes, especially if it have feet of its own.

We have not seen a nest of any other than a dark color. Horsehairs make almost half of it, and the outside is of grass closely woven around. The young birds are not "scared out of their wits," as are some birdlings, if a stranger appears, but will snuggle down and look one in the face. Once off and out they are always hungry, following the parent birds with a merry chirp, with the usual upward inflection. They come early to our garden table, where crumbs of cake and other things tempt them to eat too much. After they are filled they hop a few feet away, and sit ruffled all up, and blinking with satisfaction.

Once we played a pretty trick on the sparrows. Knowing their preference for sweets, we placed a saucer of black New Orleans molasses on the table, with a few crumbs sprinkled on the top. Of course the birds took the crumbs, and of course, again, they took a taste of the molasses. It wasn't a day before they

dipped their beaks into the molasses that had now no sprinkling of crumbs, and seemed surprised at its lack of shape. It tasted good, and yet they couldn't pick it up like crumbs. Then they took to leaving the tip of the bill in the edge of it and swallowing like any person of sense. When they were done they flew away with the molasses dripping from their faces and beaks in a laughable style, returning almost immediately with more birds.

The fact is, a sparrow is a boy when it comes to eating. Were it not for its good appetite, it couldn't put up with "just anything." Sparrows love the towns and cities because they find crumbs there. Our friend the baker knows them, and many a meal do they find ready spread at his back door. So does Bridget the cook, and even Lung Wo, if their hearts happen to have a soft place for the birds. As for the boy around the corner, who walks about on crutches, he knows all about the sparrows' preferences. In fact, sparrows seem to have a special liking for boys on crutches. One little fellow we knew used to lay his crutch down flat on the ground and place food up and down on it when the sparrows were hungry in the morning. And the crutch came to be the "family board," around which the birds gathered, be the crutch laid flat or tilted aslant on the doorstep. In this way Johnny of the crippled foot came to have a good understanding with the birds, and many a quiet hour was spent in their company. Johnny may turn out to be a great ornithologist some day, all on account of his crutch. What will it matter that he may never shoulder a gun and wander off to the woods to shoot "specimens"? His knowledge of bird ways will serve a better purpose than a possible gun. It was Johnny who first told us to notice how a sparrow straddles his little stick legs far apart when he walks, spreading his toes in a comical way.

Eastern and Western song-sparrows differ, and so do individual birds everywhere—not only in their songs, but in the distribution of specks and stripes on their clothes. What we have said about our song-sparrows may not wholly apply to the family elsewhere. These differences lead bird-lovers to study each of the birds about his own door and forests without placing too much credit upon what others say.

There is much of the year when sparrows live almost solely on seeds, and this is the time when they join hands with the farmer, so to speak, and help him with the thistles and other weeds, by work at the seed tufts and pods. Sparrows love to run in and out of holes and cracks and between cornstalks and dry woodpiles.

It was a pretty idea and a charitable one that of the poet's. In a country where roofs are shingled with thatch, or dry sticks and leaves overlapping, the sparrows are familiar residents; and where somebody remembers to "pull out the thatch" or make a loose little corner on purpose, they sleep all night. We have ourselves made many a pile of brush on purpose for the sparrows.

The white-crowned sparrows winter with us, going far up the Alaskan coast to nest in the spring, as do also the tree-sparrow, the golden-crowned, savanna,

and some others, including the beautiful fox-sparrow. These birds arrive in the Far North as soon as the rivers are open, and to the gold-seekers, who get to their dreary work with pick and spade, are like friends from home. Many a homesick miner stops a moment to listen to their clear, ringing songs, almost always in the rising inflection, as if a question were asked. And for answer, the man who sometimes would "give all the gold he ever saw" for one glimpse of home, draws his sleeve across his eyes.

Some of the sparrows which nest in Alaska use pure white ptarmigan feathers for nest-lining; while their cousins in the east, on the opposite side, breeding in Labrador, use eiderdown. In these far northern latitudes these birds scratch in the moss and dead leaves of summer-time, often coming to ice at the depth of three or four inches. The summers are so short that insect life is very scarce, excepting the mosquitoes. But there are berries! And an occasional hunter's or goldseeker's cabin always furnishes meals at short notice. Men may pass the birds at home in civilization with scarcely a thought; but when away and alone, the presence of a bird they have known in other climes brings them to their senses. It is then they recognize the fact that birds are their comrades and friends, to be cherished and fed, not always hunted and eaten.

On account of the distribution of sparrows the world over, many legends have been written of them. The very earliest we have read is the one that assures us the sparrow was seen by Mother Eve in the Garden of Eden, on the day she ate of the forbidden fruit. In fact, the "tree" was full of sparrows warning the woman not to eat, though the birds themselves were making for the fruit with might and main.

In the story of Joseph it is recorded that the "chief baker" had a dream. In his dream he bore three baskets on his head. In the uppermost basket were all kinds of "bakemeats for the king." While the baker was walking to the palace with the baskets on his head the sparrows came and ate all the meat there was in the upper basket.

In the narrative the name of the birds is not given, but the fact that they "ate up the meat," going in at the little wickerwork spaces, leads us to believe they were sparrows. It was only a dream; but people dream their waking thoughts and habits. It is supposed that this chief baker was fond of birds, and it was customary for him to feed them on the king's victuals.

Well, the king is no poorer off now that the birds had their fill. And we wish peace to the soul of the baker for his kindness.

In the ballad of the "Babes in the Wood" it was the sparrow who made the fatal mistake which took off Cock Robin before the wedding feast was over. Poor sparrow! He has never beeen known to carry a bow and arrow under his coat from that day to this. Thinking of that old ballad, we have often watched the robins and the sparrows together, and are never able to make out that the robin holds any grudge against his ancient friend and guest who made the blunder.

In nearly all the markets of the Old World sparrows have been sold as

food, bringing the very smallest price imaginable. In Palestine two of them were sold for the least piece of money in use, though what anybody wants of two sparrows, unless to make a baby's meal, we do not know.

The tree-sparrow of England is common in the Holy Land, and it was probably this bird to which the New Testament alludes.

Of our American sparrows, the fox-sparrow is probably the most beautiful in markings. By its name one might imagine it had something to do with foxes, and so it has, but in color only, being a rich foxy brown in its darker tints. This bird is seen all winter in Washington on the Capitol grounds, scratching in the leaves for food and singing its loyal melody. The fox-sparrow has been sometimes detained in captivity, but as a rule grows too fat for a good singer. It seems to be the same with them as with our domestic fowls—if too fat they give poor returns. The hen and the sparrow and most people must scratch for a living, would they make a success in life. But who would want to cage a sparrow unless it be an invalid who can never go out of the room. Even here, if the invalid have a window-sill it were better; for the window-sill is sparrow's own delight, if it be furnished with crumbs. Or, if one would see some fun, let the crumbs be in a good round loaf tightly fastened. This, let the sparrow understand, is for him alone, and he will burrow to the heart of it. Caged birds make sorry companions.

Lark Sparrow (*Chondestes grammacus and sub-species*)

Length, about 6¼ inches. The variegated head markings and white outer tail feathers distinguish this species.

Range: From western Pennsylvania and western Maryland and the Mississippi valley westward; and from southern British Columbia and southern Saskatchewan to central Alabama, northern Louisiana, Texas and south into Mexico; winters from northern California, southern Texas and southern Mississippi to Guatemala.

With some of the habits of the grass finch and, like that species, having the tail feathers tipped with white, the lark sparrow yet possesses distinctive traits of its own and after a little scrutiny can be mistaken for no other species. Its peculiar head markings have suggested the local western name of "snake bird," although the reason is not quite obvious. The lark finch is usually very abundant where found at all, and inhabits the open country, prairie, plain and desert. It is often to be seen running along the dusty roads or perching on the roadside bushes and fences. It is a really fine songster and the possession of a musical voice has led to its capture and sale as a cage bird.

It has peculiar claims on the interest of the western farmer since it is to be classed in the front rank of sparrows as a destroyer of grasshoppers. These harmful insects and others constitute about a third of its food for the year, while weed seeds of great variety form the other two-thirds.

The Wood Pewee (*Myiochanes virens*)

By Herman C. De Groat

Length: 6½ inches.

Range: Eastern North America to the Plains, and from Canada to southern states.

Food: Mostly insects.

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

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

After wintering in Central America, it is a late migrant, for it does not reach north until the end of May. It raises but one brood which is not hatched before the last of June. It remains north until the last of September.

And No Birds Sing

By Mildred Howells

There comes a season when the bird is still
  Save for a broken note, so sad and strange,
Its plaintive cadence makes the woodlands thrill
  With sense of coming change.

Stirred into ecstasy by spring's new birth,
  In throbbing rhapsodies of hope and love,
He shared his transports with the listening earth
  And stormed the heavens above.

But now how should he sing—forlorn, alone—
  Of hopes that withered with the waning year,
An empty nest with mate and fledgelings flown,
  And winter drawing near?

WOOD PEWEE.
¾ Life-size.

How to Study Birds

By Gerard Alan Abbott

All temperate North America is inhabited twelve months of the year by bird-life. Our feathered friends exist in greater numbers than most people suppose. It is desirable to commence observations about the first of the year, for in January, though our bird ranks are greatly depleted, the hardy winter residents may be observed with ease as there is little foliage to obstruct the view. Inexhaustible patience together with "bulldog persistence" is productive of the best results. We may become botanists or geologists with the realization that the object of our search exists in a given locality, but the bird student finds a constant change taking place in his field. The bird he desires most to examine becomes elusive and keeps him constantly on the alert.

A good pair of field or opera glasses are valuable in determining the colors or markings on various birds but our chief aim is to learn how and when to look for a given variety.

One need not absent himself from inhabited sections in order to become acquianted with the common and many of the rarer birds. The average 200-acre farm with its natural timber and lake or water-course is an ideal spot for bird study. Birds, in their efforts to avoid their natural enemies, such as prowling mammals, birds of prey and reptiles, are inclined to seek rather than avoid the domains of man. You may be surprised to learn how many birds visit dooryards and orchards in the rural districts annually. Many are only migrants on their way to and from a more northerly latitude, but from ten to twenty-five varieties are common about our dwellings, orchards and pastures.

Let the bird student who is to acquire a knowledge of bird life by observation, avoid the society of other persons when going "birding." It may be interesting to have human companionship and some one to share with you in the finds you hope to make. Usually the naturalist never lacks companionship simply because he is without the company of other people. To the lover of the prairies, water-courses and timber lands—for such he must be to successfully acquaint himself with our feathered creatures—there can be no longing for companionship. The nodding flowers, swaying branches, rippling brooks and breezy meadows all convey messages of their own.

Let us take for example a given area not to exceed fifty miles from Lake Michigan anywhere within an imaginary line drawn from a point in southwestern Michigan through northern Indiana and Illinois, thence northward into southeastern Wisconsin. During January we have with us such birds as the downy woodpecker, white-breasted nuthatch and chickadee, which are fond of each other's company and quite likely to be observed together, moving about the trees in our dooryards, orchards or woodlands. The noisy bluejays are

more or less in evidence and the ever cautious crow visits the pastures and corn fields.

The evening grosbeak, pine grosbeak, Bohemian waxwing, redpoll, white-winged and red crossbills are at this season of the year wintering about the Great Lakes region, feeding in coniferous trees or on orchard buds, and often searching for wild berries and unpicked fruit. A few of our hardy goldfinches may be in the vicinity, and slate-colored juncos in company with three sparrows are feeding on seeds in the weedy patches. In the open areas the Lapland and Smith's longspurs are busily feeding and calling to each other in their mellow notes. Horned larks, shore larks and snowflakes are to be seen on the prairies or often about the barnyards when snow is deep.

Old hollow trees afford ample protection for the screech, barred and horned owls. Occasionally a stray snowy owl from the far north is encountered. The hardy raven often reaches a latitude as far south as Illinois and Indiana, and at this time of the year, is apt to be feeding along the shores of the Lake looking for aquatic and land animals.

The northern shrike haunts the hedges and parks occupied by our quarrelsome English sparrow or busy tree sparrow. Bands of Canada geese are living on the open water. They collect there during the daytime and just before sunset we see or hear them moving in regular V-shaped flocks to the fields where they feed by night.

The grouse are very companionable at this season of the year, the prairie chickens and bob-whites congregate in immense flocks. The little bob-whites seek shelter along the rail fences or about the underbrush, while the prairie chickens frequent the fields. The ruffed grouse spends the day feeding on the ground, roosting by night in the trees where no prowling animal may disturb.

Herring and ring-billed gulls hover over the rivers and along the shores of the lake looking for fish or decayed animal matter.

February brings no particular change except that other winter visitors may have arrived or some friends departed. Our true winter ducks are fishing on the open water. They are the old squaw, golden-eye, white-winged scoter, American and red-breasted mergansers.

During the last ten days of February the great horned owl may be observed sitting upon her two white eggs deposited in an old hawk's nest, or in a hollow tree. A few short-eared owls may be seen flying over the frozen marsh in search of rodents.

With our first week of March, several summer residents arrive and during the month we may expect to see the song sparrow, bluebird, meadowlark, robin, red-tailed hawk, mallard, woodcock, flicker, red-winged and rusty blackbird, fox sparrow, bronzed grackle, phœbe and others. The prairie horned lark is incubating her first setting of eggs.

April brings the purple martin, mourning dove, red-headed woodpecker, brown thrasher, Wilson's snipe, blue-winged teal, vesper, field, grasshopper,

swamp and Henslow's sparrows, towhee, and red-shouldered and sparrow hawks. The myrtle warbler, white-throated sparrows and ruby and golden-crowned kinglets are in evidence among the underbrush and low trees.

The April rains and sun have taken the frost out of the ground and the warmth of May restores the foliage to our trees and shrubbery. With the unfolding of the leaves appear myriads of insects and worms. Our later birds now arrive, including the brightly plumaged orioles, scarlet tanagers, rose-breasted grosbeaks, indigo buntings and bobolinks. Our daintily attired warblers and retiring flycatchers are haunting the trees and vireos are carefully inspecting the branches and leaf stems. More ducks, shore birds, and other water fowl have arrived. The plover, and yellow legs are whistling and the gallinules and rails call to each other from clumps of old rushes which afford better protection than the young vegetation.

The phœbe, bob-white, woodcock, song sparrow, red-shouldered hawk, screech owl, mourning dove, bluebird, robin, bluejay, crow, brown thrasher and towhee are all busily engaged in the duties of hatching their eggs and rearing their young. This is the season when birds in their ecstasy become less cautious and afford splendid opportunities for observation.

You should arise before dawn, because with the first glimmer of daylight certain birds burst forth into song. Before the sun has risen many voices may be heard on the meadows, in the woodlands or about the marshes. Some birds found singing at this time of the year are silent during the day, but with the approach of twilight we are greeted with the carol of the wood thrush, the hymn of the vesper sparrow and the cooing of the mourning dove. Night hawks are conspicuous and, as the curtain of night falls, we hear the mournful cry of the owl and the weird note of the whip-poor-will.

In June nesting is at its height. The male birds are also in full song, but the opportunity for bird observation is not so good. Our feathered friends have more serious obligations and are now too preoccupied to devote much time to courtship so we see less of the female. The males may be seen or heard regularly for the next two to four weeks.

Birds such as the prairie horned lark, killdeer, song sparrow, phœbe, bluebird and robin are preparing to rear a second brood. Two weeks ago their first nests were occupied with eggs that hatched before many of our summer residents had returned from the South. If we venture into the meadows, through the orchards or to the woodlands, many fledgelings are encountered. The parents are uneasy at our presence and manifest their displeasure by showing little fear in their efforts to protect their offspring. The flycatchers, vireos, and thrushes are now sitting upon their eggs. These birds usually rear but one brood during a season.

The marshes are gradually drying up and the few hollows which still contain water are attractive places for rails, herons and bitterns.

In July the goldfinches act as vivacious as most birds do in May. Thistle

down, now floating in the air, is used as a lining for their nests, while they largely subsist on the thistle seeds. By the middle of July our graceful swallows have completed household duties and are congregating along the marshes and lakesides. Flocks of tree and bank swallows often mingle and move over the marshy sloughs, alighting at sundown on the telephone and telegraph wires. Few birds sing during the heat of the day except indigo buntings, towhees, dickcissels, field sparrows, song sparrows and robins. These birds are more domestic and prolific than swallows and the duties of rearing a second family will consume the entire month.

The bobolink is losing his gay coat of black and white and buff and is preparing for a raid upon the southern rice fields where he will travel under the disguise of "ricebird." Less capable of flight while shedding his feathers, he retires to cornfields to molt, where he is afforded an unobstructed view on all sides as a protection against natural enemies.

August is the general month for molting. About the only birds demonstrative about nest-building at this late date are some of the goldfinches and cedar waxwings. Many of the latter have remained in flocks through the entire winter, spring, and early summer, but are now busy nest-building in some isolated orchard, shade tree, or evergreen. A walk through the timber, along the watercourses and over fields will disclose little bird-life as birds are naturally shy and evasive while molting. Their flight even is defective so they remain within the shelter of heavy grass or brush. We may see a dozen wood ducks about some little lagoon or wooded lake, probably two adults and their offspring. Woodpeckers may be seen moving about in families, two redheaded woodpeckers guiding four or five immature birds which have not attained the scarlet headgear. Only during the early hours of morning do the birds show any animation. At that time we occasionally hear the song of a catbird, the call of a cuckoo, the note of a pewee and the mellow twitter of a goldfinch as he darts back and forth singing at every dip of his undulating flight.

This is a good month to examine and collect birds' nests. They have not long been exposed to the weather because the foliage is still on the trees. Many nests are kept in their proper shape only by removing the twig, stem or limb to which they are attached. The weather is still more or less sultry, but we may venture into the damp or dark places without the annoyance of mosquitoes, gnats, and other insects which are so numerous during June and July.

With the arrival of September we see many new forms about our shade trees, gardens and groves. They are not usually our summer residents in different plumage, but birds from a more northerly latitude. The warblers have begun their annual southward journey. Along the pebbly beaches and sandy shores hundreds of little waders are moving along in a systematic search for aquatic life. Many of them are marked differently than they were five months ago. During the interval they have visited the tundras and barrens about the Arctic ocean, deposited their four eggs, reared their young and are now feasting as they

move by degrees to the south. Three months from now some of them will be hundreds of miles south of the equator.

Owls seek more open situations at this time of the year. They realize that the territory is populated by transients and the time is to be improved by hunting in the open where smaller forms of bird-life are so much in evidence. It is still possible to find an unoccupied nest of the goldfinch or cedar waxwing though undoubtedly the birds have been accidentally delayed. The male goldfinch is losing his brilliant coat of black and yellow and is assuming a covering of dull greenish black not unlike his mate. Great flocks of blackbirds comprising red-wings, rusty blackbirds and cowbirds forage in the marshes and descend upon the grain fields. The graceful little terns called seagulls are moving leisurely southward along water-courses.

On the upland prairies large flocks of golden plover are feeding on wild berries, grasshoppers and crickets. The birds have lost the handsome black breasts and there is nothing about their appearance to identify them, save their clear mellow whistle, or call-note, which they use when moving swiftly in compact flocks over our uncultivated land. As Helen Hunt Jackson says:

"October the month of carnival of all the year,
When Nature lets the wild earth go its way,
And spend whole seasons on a single day."

With the fall or turning of the leaves in October, we lose our insectivorous birds. Belated warblers are hurrying southward and occasionally a phœbe may be seen lingering about the nesting place, loath to leave the little bridge or old well with its past associations. As we walk through the dead leaves of the woodlands, willow, olive-backed and hermit thrushes are startled from the ground and fly to the nearest branch of some leafless tree. Small flocks of white-throated, fox or white-crowned sparrows are busily feeding in the fence corners. The junco has returned from the Canadian provinces and will remain with us until a mantle of snow forces him to seek food elsewhere.

Golden and ruby-crowned kinglets moving in company with brown creepers comprise a fearless trio while inspecting the trees on our lawns and in our parks. The little kinglets look twice as large as they did last April, the fluffed feathers offering more resistance to the October chill. The frosted vegetation in sloughs and bayous now exposes many a gallinule, coot and rail, where many are shot by pot-hunters lacking in sportsmanship.

The large cities are revisited by various forms of sea birds providing there is a water frontage. During the late fall, winter and spring months Bonaparte's, herring, and ring-billed gulls visit the shores of lakes and rivers, especially when these waters are navigable, to procure the refuse. Wilson's snipe is again on the marsh where his flight taxes the skill of the best gunners.

November leaves us with a limited variety of birds, most of which are found in flocks. Robins still loiter in sheltered places and the hardy meadow-lark lingers about his favorite pasture. On a bleak morning we hear his merry chipper

which seems a protest against snow and ice. Flocks of mallards gorge themselves in the cornfields. The birds are then prepared for a continuous flight of two thousand miles, though they defer such journey as long as they can find open water nearer. We have the mallard with us from October to late in December. With January comes a general freeze up of his feeding grounds, so he moves just far enough south to return at the first thaw in February. Many mallards reach Canada in March. Fifty years ago we had this noble game bird with us at least eleven months in the year. Great flocks of prairie chickens are now roaming the cornfields. Families have combined with others and these flocks join larger ones until hundreds of birds have banded together so to remain until April.

Field and tree sparrows are sheltered along the roadsides in the thickets and about truck gardens. A few large hawks, such as the red-tailed, goshawk and rough-leg are in evidence. The two latter are migratory but often spend the winter with us. The rough-leg is sluggish, his habits reminding one of an owl. The little screetch owl calls weirdly through the long nights of November when other bird voices are hushed. December causes the crows to "hustle for a living." Rather than migrate during severe weather they sometimes starve. One good word may be said here in behalf of the crow; he has never been known to eat the remains of his own kind nor does he attempt to fight with his fellow birds over some morsel which he may have chanced to acquire.

This is a good time to set up a little "free lunch counter" for the birds by nailing a board to your windowsill or nearby tree. You will undoubtedly make friends with several sociable birds. Place a generous amount of corn, bread crumbs and suet on this shelf, or the latter if preferred may be tied to a limb. Downy woodpeckers and white-breasted nuthatches are very fond of suet and the nuthatch will usually prevail upon some chickadee to visit the same eating place. Occasionally a bluejay or English sparrow will steal the larder intended for the other birds, thus justifying one in shooting them on sight.

Visit the woods on a cold December morning when snow is on the ground. You will be surprised at the friendliness of the chickadee. He even alights upon your head or shoulder and will readily eat bread crumbs from your hand.

The Bluebird

O bluebird, up in the maple-tree
Shaking your throat with such bursts of glee;
Did you dip your wings in the azure dye
When April began to paint the sky?
Or were you hatched from a blue-bell bright
'Neath the warm gold breast of a sunbeam light?

—Emily Dickinson.

The Thrush

By Stanley Hubbard

Sweetly, thou silver-throated thrush,
  Fashion a song for me.
Out of the western air of balm,
  Sing from the birchen tree.

The gray hawk roams the under sky:
  Fear no shadowing wing.
The winds shall tell us of his flight:
  Leap to the light and sing.

The twig scarce bends beneath thy weight—
  Now is thy strain divine.
Joys embalmed of a thousand springs
  Flow from that heart of thine.

Thy bosom swells with budding notes:
  Let them blossom and throng
Till earth and sky and sea are naught,
  Vanished into thy song.

And now the eve, for day hath closed
  Westward her golden door,
And thou shalt dream of thy still mate
  Guarding the fledglings four.

For winds breathe low, and from the east
  Shadows of night are sent
To give thee and thy dear ones sleep
While faithful stars draw night and peep
  Under the purple tent.

The Wild Turkey (*Meleogris gallopavo silvestris*)

By John James Audubon

Length: 48 to 50 inches.

Range: United States from Massachusetts to the Gulf Coast and west to the plains.

The great size and beauty of the wild turkey, its value as a delicate and highly prized article of food, and the circumstance of its being the origin of the domestic race now generally dispersed over both continents, render it one of the most interesting of the birds indigenous to the United States.

The turkey is irregularly migratory as well as irregularly gregarious. With reference to the first of these circumstances I have to state that whenever the mast or food supply of one portion of the country happens greatly to exceed that of another, the turkeys are insensibly led toward that spot, by gradually meeting in their haunts with more fruit the nearer they advance toward the place where it is most plentiful. In this manner flock follows after flock until one district is entirely deserted while another is overrun by them.

About the beginning of October, when scarcely any of the seeds and fruits have yet fallen from the trees, these birds assemble in flocks and gradually move toward the rich bottom lands of the Ohio and Mississippi. The males, or, as they are more commonly called, the gobblers, associate in parties of from ten to a hundred and search for food apart from the females; while the latter are seen either advancing singly, each with its brood of young then about two-thirds grown, or in connection with other families, forming parties often amounting to seventy or eighty individuals.

When the turkeys arrive in parts where the mast is abundant they separate into smaller flocks composed of birds of all ages and both sexes and devour all before them. This happens about the middle of November. So gentle do they sometimes become after these long journeys that they have been seen to approach the farmhouses, associate with the domestic fowls, and enter the stables and corncribs in quest of food. In this way, roaming about the forests and feeding chiefly on mast, they pass the autumn and part of the winter.

About the middle of April, when the season is dry, the female wild turkeys begin to look out for a place in which to deposit their eggs. This place requires to be as much as possible concealed from the eye of the crow, as that bird often watches the turkey when going to her nest and, waiting in the neighborhood until she has left it, removes and eats the eggs.

The nest, which consists of a few withered leaves, is placed on the ground in a hollow scooped out by the side of a log, or below the fallen top of a dry leafy tree, under a thicket of sumac briers, or a few feet within the edge of a canebrake, but always in a dry place. The eggs, which are of a dull green color, sprinkled with red dots, sometimes number to twenty, although the more usual number is from ten to fifteen.

WILD TURKEY.
¼ Life size

When depositing her eggs the turkey always approaches the nest with extreme caution, scarcely ever taking the same course twice; and when about to leave them, covers them carefully with dry leaves, so that it is very difficult for a person who may have seen the bird to discover the nest. Indeed, few turkeys' nests are found, unless the bird has been suddenly started from them, or a cunning lynx, fox, or crow has sucked the eggs and left their shells scattered about.

When a man passes within sight of a female, while laying or sitting, she never moves unless she knows she has been discovered, but crouches lower until he has passed. I have frequently approached within five or six paces of a nest of which I was previously aware, on assuming an air of carelessness, or whistling or talking to myself, the female remaining undisturbed; whereas if I went cautiously toward it she would never suffer me to approach within twenty paces, but would run off, with her tail spread on one side, to a distance of twenty or thirty yards, when, assuming a stately gait, she would walk about deliberately, uttering every now and then a cluck. They seldom abandon their nest when it has been discovered by men; but I believe never go near it again when a snake or other animal has sucked any of the eggs.

Several hen turkeys sometimes associate together, I believe for their mutual safety, deposit their eggs in the same nest, and rear their broods together. I once found three sitting on forty-two eggs. In such cases, the common nest is always watched by one of the females, so that no crow, raven, or perhaps even polecat, dares approach it.

The mother will not leave her eggs when near hatching, under any circumstances while life remains. She will even allow an inclosure to be made around her, and thus suffer imprisonment rather than abandon them.

I once witnessed the hatching of a brood of turkeys. I concealed myself on the ground within a few feet, and saw the mother raise herself half the length of her legs, look anxiously upon the eggs, cluck with a sound peculiar to the mother on such occasions, carefully remove each half-empty shell, and with her bill caress and dry the young birds that already stood tottering and attempting their way out of the nest. I have seen them all emerge from the shell, and in a few moments tumble, roll, and push each other forward, with astonishing and inscrutable instinct.

Before leaving the nest with her young brood, the mother shakes herself in a violent manner, picks and adjusts the feathers about the lower side of her body, and assumes quite a different aspect. She alternately inclines her eyes upwards and sideways, stretching out her neck, to discover hawks or other enemies, spreads her wings a little as she walks, and softly clucks to keep her innocent offsprings close to her. They move slowly along, and as the hatching generally takes place in the afternoon, they frequently return to the nest to spend the first night there.

After this they remove to some distance, keeping on the highest undulating ground, the mother dreading rainy weather, which is extremely dangerous to the

young in this tender state, when they are covered only with a soft hairy down of surprising delicacy. In very rainy seasons, turkeys are scarce, for if once completely wetted, the young seldom recover. To prevent the disastrous effects of rainy weather, the mother, like a skillful physician, plucks the buds of the spicewood bush and gives them to her young.

In about a fortnight the young birds which had previously rested on the ground, leave it and fly at night to some very large low branch, where they place themselves under the deeply curved wings of the mother, dividing themselves for that purpose into nearly equal parties. After this they they leave the woods during the day and approach the natural glades or prairies, in search of strawberries and late dewberries, blackberries and grasshoppers, thus obtaining abundant food, and enjoying the sunshine. They roll themselves in deserted ants' nests, to clear their growing feathers of loose scales, and to prevent ticks and other vermin from attacking them, these insects being unable to bear the odor of earth in which ants have been. The young turkeys now grow rapidly, and in the month of August are able to secure themselves from unexpected attacks of wolves, foxes, lynxes, and even cougars, by rising quickly from the ground, being helped by their powerful legs, and reaching with ease the highest branches of the tallest trees.

Rufous Hummingbird (*Selasphorus rufus*)

Length, from 3¼ to 3¾ inches. The reddish brown body color, red and green gorget, and the notch in tail feathers serve to distinguish this species from our other hummers.

Range: Breeds from the Alaskan coast, east central British Columbia, and southern Alberta south to the mountains of central California, and southern Idaho.

One can but wonder at the hardihood of this little wanderer from the tropics in including in its summer itinerary a journey to distant Alaska. It reaches a latitude of 61°, much farther north than any other of its kind. In favored glades of the forests in the Rock Mountains and the Sierras during the migration this and other species of hummers are to be seen literally by hundreds. The rufous hummer has temper and courage to match its fiery hues, and spends no small part of its time doing battle with its fellows. The contestants after several fierce rounds fly away not only fit but eager for another fray on the first occasion. In addition to the nectar of flowers, its standard fare, this hummer includes in its diet "honey dew," the sugary secretion of plant lice which is deposited on vegetation. Like all other hummers it eats large numbers of minute insects which it finds inside the flowers. It is interesting to note that hummingbirds discover the flowers they frequent by sight alone and any bit of bright color in the distance is sure to attract their notice, as a bright red handkerchief on a bush or about the neck. More than once I have observed them poising within a few inches of my head evidently endeavoring to ascertain the nature of the red handkerchief I wore.

The Romance of Ornithology

By Joseph Grinnell

The birds must know. Who wisely sings
    Will sing as they.
The common air has generous wings:
    Songs make their way.
What bird is that? The song is good.
    And eager eyes
Go peering through the dusky wood
    In glad surprise:
The birds must know.

—Helen Hunt Jackson.

As everybody knows, ornithology means a discourse about birds—and people have discoursed about birds ever since spoken or written language gave us the means of exchanging thoughts.

In the Biblical history of the creation, birds occurred in the fifth epoch of time, when the evolution of grass and herbs and trees and seeds and fruits had made for them a paradise. With the grass and trees and seeds and fruits had evolved a variable diet for the feathered folk, and by instinct they have continued to follow after their food, migrating on merry tours the wide world over. Lovers of them from earliest dates have discoursed of their ways and means, of their habits, their favorite resorts, their uses relative to cultivation of lands, their faults in connection with civilization. Students of nature have divided the birds into "classes" and "species," as the human race itself is divided. As "order is heaven's first law," ornithologists have taught us to distinguish it in the study of birds; and so we have the "groups," always with reference to individual habits and anatomical peculiarities.

In the Old World, ornithology as a science dates, perhaps, from Aristotle, 384 years before Christ. True, he was a teacher of A, B, C's on the subject, but he sets students to "thinking." But there were students before Aristotle; if not students of science, they were students of religion. It is to religion in many forms that we owe the romance of ornithology. We may call this phase of the subject "superstition." The word itself is almost gruesome to the unlettered imagination. It suggests uncanny things, ghosts and goblins, and other creatures that are supposed to wander around in the dark, because they were never seen at mid-day or any other time. To the educated person, actual faith in ghosts and goblins has given place to a mildly fanciful imagination which indulges in the flavor of superstition, as one takes light desserts after a full meal. And so we have the romance of superstition for the intelligent.

Stopping to consider that the word itself means a "standing still" to "stare"

at something, an attitude of reverence, so to speak, we see how religion in ornithology preceded the romance of it. Certain of the birds waited on the deities, or had access to their presence, in consequence of which they were set apart and protected. Sometimes they were prophets of the gods, foretelling future events with accuracy. Their flights were noted by religious devotees, who, unconsciously to themselves probably, and certainly unsuspected by their followers, were sure to be "out" at migration times. At such times, should the birds choose a natural course past a city and be seen only after they had left it behind them, the prophet knew, in the depths of his religious being, that the gods had doomed the city. It was only when the study of birds as an actual science developed the fact that these denizens of the air depended more upon climate and necessary diet than upon the will of gruesome gods that the religion of ornithology gave place to romance. And romance is the after-dinner course of real ornithology—romance lends a fanciful touch to figures and data, and apologizes to the average student for intermissions that seem dedicated to frolic.

In the universe of romance, North America has its full share. Preceding the romance was, and still is (among the native tribes), the religion of superstition. The deities foretell certain death of persons among the Eskimos by the passing of a bluejay or the croak of a raven.

Our own poet, Edgar Allen Poe, was not an Eskimo, but he indulged in the well-known superstitions about the bird when he permitted the raven to perch above his door. Many of the Arctic tribes are known to protect the ominous bird to this day. The Indians of Alaska revere and even fear it, like a black spirit from the land of demons.

Song and story among American aborigines are replete with bird superstition. So prominent was it that early historians made mention of it to preserve it, and students of languages are putting it into books, so that romance and legend may not pass away with our native Indians.

The government itself is preserving the history of American superstition among its precious archives. Reports of the Ethnological Bureau are entertaining reading for vacation times. True, they are "heavy volumes" in some cases, but there are supplements. Were these reports placed in more schools and other libraries, the inclination to read more objectionable and not half so entertaining literature would go quickly out, like a fire-proof match, without burning the fingers.

To those who find a fascination in prehistoric legends the study of bird representation on the ancient pottery of some of our western Indians, and in the mounds of the Mississippi Valley, is offered in some of these government reports. They are a very mine of suggestion and information. Imagination, subtle guide to many a self-entertaining mind, runs fast and faster on before while one reads, and one wonders how it came to pass one never knew about government reports before.

The Ethnological Bureau is the poet's corner of our government—the romance of our dull facts and figures. Without its unsleeping eye forever scanning the sky of unwritten literature for gems, how would some of us know about the history of the human race as preserved by the Iroquois Indians? And that birds had a wing, if not a hand, in the peopling of America at least?

Of course America was "all the world" to these Indians, and naturally enough their priests and poets combined to give some adequate genesis for the people.

It is said that a story, once started on its rounds in civilized society, gathers facts and things as it goes, until at last—and not before very long—its own original parent "wouldn't recognize it." Not so the legends that have come to us through savage tongues. Simple to start with, they maintain their original type without a trace of addition. What students gather for us of folk-lore is as correct as though the first text had been copyrighted by its author. Note this simplicity in all barbaric legends, the discourse coming straight to the facts and leaving off when it is done.

This one legend referred to of the origin of the human race makes so good a preface to the closing rhyme of our text, that we are tempted to give it for that special purpose. According to this story of the Iroquois Indians, it is to birds that woman owes her history. Unconsciously to these natives of America, they identified woman with birds and birds' wings for all time. Unconsciously, perhaps, to herself, woman has also identified her sex with birds and bird wings, though in a different relation to that of the Iroquois. The legend will need no further introduction to the girl or woman of America who may become interested in "Birds of Song and Story."

There was once a time when all the earth was hidden under great waters. No island or continent gave foothold. No tree, torn from its moorings, afforded rest to tired foot or wing; for finny and winged people were all the inhabitants in being. Birds soared unceasingly in the air, and fish disported their beautiful armor-plate in the water. In the consciousness of bird and fish there was need of higher intelligences than themselves. They watched and waited for some hint, some glimpse, of other and superior beings. One day the birds, congregating in the sky, discoursing on this very matter, beheld a lovely woman dropping out of the far blue. Hurriedly they talked of possible means of saving her from drowning, for they had a subtle sense that this falling object, with arms outstretched like wings, was the being they hoped for. One of their number, a prophet, suggested the means. As the lovely being dropped toward the great sea the birds came together and lapped wings over wings in a thick feathered island. Upon the soft deck of this throbbing life-boat the beautiful being descended and lay panting. Slowly and lovingly her soft hand caressed the wings of her benefactors. She lifted the variously tinted plumage of the breasts on which she reclined, and kissed the down of them

That was long, long ago!

The Flicker (*Colaptes auratus auratus*)

By I. N. Mitchell

Length: 12½ inches.

Range: Northern and Eastern North America, west to Rocky Mountains and Alaska.

Food: Worms, grubs, ants, etc.

Sexes similar, the female lacks the black streaks on the sides of the throat; nest a deep hole excavated in a dead tree or stub, with no lining save a cushion of fine chips in the bottom; eggs five to nine, usually six; note a loud and clear wick, wick, wick, or wicker, wicker, wicker, or yucker, yucker, etc.

A bird with so many notes and other accomplishments as the flicker is certain to have many human admirers and also many names.

When wakened in the early morning by his loud drumming on the ridge-board, chimney cap or cornice and then hearing his wicker, wicker, how easy it is to imagine that he is calling to you to wake-up, wake-up, or that he is saying flicker, or wicker, or again yucker or rucker. All of these words have come to be his names in some part of the country. Then, too, there are his bright colors, the golden yellow lining of wings and tail and the yellow quills of wing and tail feathers. No wonder that he is called the golden-winged woodpecker, golden-shafted woodpecker, yellow-shafted woodpecker, yellow-hammer. This last name refers also to his habit of drumming on some dry, resonant limb. Usually the flicker digs his nest hole fifteen feet or less from the ground, but occasionally he goes as high as fifty or sixty feet. How natural therefore to call him the high-hole or high-holer or high-holder.

Being a woodpecker, we naturally expect to find him working at his trade on the trees, but, how common it is to see this one on the ground instead, more like a pigeon. His size, too, is nearly that of the pigeon and for these reasons he is known to many as the pigeon woodpecker. But we can not study all of his names, for he has nearly forty of them.

Just above, we noted the flicker's habit of feeding upon the ground like a pigeon.

If you watch him, you may notice that his bill is covered with bits of soil. Evidently he has been digging for something to eat. Examinations of the food found in the stomachs of flickers show what he is after. Earthworms and grubs are much to his liking and he has learned how to find them, but, as already explained in the story of the sapsucker, the flicker is the greatest ant eater among our birds. That is the chief reason why he is on the ground so much. He stirs up the ant hill with his bill and picks up the ants with the sticky, brushy tip of his tongue.

Professor Beal found over 3,000 ants in the stomach of each of two flickers. Ants form forty-three per cent of the flicker's food. That is almost half of it.

FLICKER.
(Colaptes auratus).
¾ Life-size.

The wheat farmers will be glad to learn that the flicker is also fond of chinch bugs, for Mr. Bruner found nearly a thousand of them in the stomach of a flicker that was killed near Lincoln, Nebraska.

But not only do the flickers make their own meals off of ants and chinch bugs, they also feed them to the nestlings. How can they do it? Simply by swallowing a great number of them, then going to the nest and "unswallowing" the softened food into the throats of the little ones.

Did you ever have the peculiar experience of approaching close to a flicker's nest while the young were in it? Many a boy has done so and beaten a hasty retreat. Why? Because he thought he had made a serious mistake and was about to investigate the home of a swarm of bees instead of the nest of a bird. The young flickers make a loud hissing noise that sounds so much like the buzzing of angry bees that even one who knows about it is very likely to be startled in spite of himself.

The flicker is one of the early spring arrivals. About the twenty-third of March, not many days after the arrival of the robin and bluebird, it is well to be on the watch for this gaily marked woodpecker. In fact it would be well to be on the watch as early as the middle of the month.

The flicker is an easy mark. Note his large size, his wavy flight, like that of the goldfinch, only the waves are longer. If he chances to fly from you, note the white patch on the rump and watch for the glint of the golden lining of the wings. Ah, he alights on the trunk of a tree—woodpecker like; now you can see the large scarlet patch on the back of the head. As he slides around the tree you can see the large, black polka dots on his sides and the big black crescent on his breast.

You may see two of the flickers on the tree. Are they playing tag or peek-a-boo? It seems like a combination of those and "pussy-wants-a-corner." How they bow and bob up and down, now scrambling around the tree, now peeking out to see if the other is coming, then off they go to another tree and back again, and the whole interesting show is given over again and again.

When the mating is over, they set to work to make ready the nest and get the housekeeping started. The illustration may give some idea of the amount of digging they do before the nest is completed. This one is in the stub of an old cherry tree. The entrance is near the bird, the bottom of the nest is in the second piece of the trunk.

The Wood Thrush (*Hylocichla mustelina*)

By Alexander Wilson

Length: 7½ to 8½ inches.

Range: Eastern United States to the Plains north to Michigan, Canada and Massachusetts.

The wood thrush finds its way to our hearts and sympathies more through its voice than its presence, and whoever has failed to hear its clear flute-like tones rising from the woodland depths as the mists of evening gather has missed a rich treat. It is no doubt true that the Hermit Thrush is a more finished performer, but that chorister reserves his music chiefly for the northern wilds while our wood thrush favors more southern lands. Moreover, the hermit is a true recluse and must be sought in the deeper forest, its chosen home, while its more southern cousin lives in comparatively open woodland and does not disdain to take up its summer residence in parks and gardens. The music of the one is for the favored few, while the song of the other is almost as well known as that of the brown thrasher.

Like most of the tribe, the wood thrush obtains its food chiefly from the ground, where it spends much of its time searching among the leaves. Insects with a small percentage of fruit, chiefly wild varieties, compose its fare. Among the insects are cutworms and other caterpillars, ants, grasshoppers and beetles, including the Colorado potato beetle. Thus the bird deserves a high place in our esteem for both esthetic and economic reasons.

This sweet and solitary songster arrives about the twentieth of April, or soon after, and returns to the South about the beginning of October. At whatever time he may appear, he soon announces his presence in the woods. With the dawn of the succeeding morning, mounting to the top of some tall tree, he pipes his few but clear and musical notes in a kind of ecstasy, the prelude to which strongly resembles the double tonguing of a German flute, or sometimes the tinkling of a small bell. The whole song consists of five or six parts, the last note of each of which is such a tone as to leave the conclusion evidently suspended; the finale is finely managed, and with such charming effect as to soothe and tranquilize the mind and to seem sweeter and more mellow at each successive repetition.

Rival songsters of the same species challenge each other from different parts of the woods, seeming to vie for softer tones and more exquisite responses. During the burning heat of the day they are comparatively mute; but in the evening the same melody is renewed and continued long after sunset. Those who visit our woods or ride out into the country at these hours, during May and June, will be at no loss to recognize, from the above description, this pleasing musician. Even in dark, wet, and gloomy weather, when scarce a single chirp is heard from any other bird the clear notes of the Wood Thrush thrill through the forest from

WOOD THRUSH.
Life-size.

morning to night; and it may truly be said that, the sadder the day the sweeter is his song.

The favorite haunts of the Wood Thrush are low, thick-shaded hollows, through which a small brook or rill meanders, overhung with alder bushes that are mantled with wild vines. Near such a scene the nest is generally built—in a laurel or alder brush. Outwardly it is composed of withered beech leaves of the preceding year, laid at the bottom in considerable numbers, no doubt to prevent dampness and moisture from ascending through, as the nest is frequently placed in low, wet situations. Above these leaves are layers of knotty stalks of withered grass, mixed with mud, and smoothly plastered, above which is laid a slight lining of fine black fibrous roots of plants. The eggs are four, sometimes five, of a uniform light blue color without any spots.

The Wood Thrush appears always singly or in pairs. With the modesty of true merit he charms you with his song, but is content and sometimes even solicitous to be concealed. He delights to follow the irregular windings of the brook, where by the luxuriance of foliage the sun is completely shut out or only plays in a few interrupted beams on the glittering surface of the water. These birds are also fond of a particular species of lichen which grows in such situations, and which, toward the fall, I have uniformly found in their stomachs. Berries, however, of various kinds are the principal food, although beetles and caterpillars are freely eaten.

Those who have paid minute attention to the singing of birds know well that the voice, energy, and expression in the same tribe differ as widely as the voices of different individuals of the human species, or as one singer does from another. The powers of song in some individuals of the Wood Thrush have often surprised and delighted me. Of these I remember one, many years ago, whose notes I could instantly recognize on entering the woods, and with whom I had been acquainted, as it were, from his first arrival. The top of a large white oak that overhung part of the glen was usually the favorite pinnacle from whence he poured the sweetest melody. I had frequently listened to this song until night began to gather in the woods and the fireflies to sparkle in the branches. But, alas!

"One morn I miss'd him on the 'custom'd hill,
Along the heath, and near his fav'rite tree;
Another came; nor yet beside the rill,
Nor up the lawn nor at the wood was he."

A few days afterward, passing along the edge of the rocks, I found fragments of the wings and broken feathers of a wood thrush killed by a hawk, and I gazed at them with unfeigned regret.

To be distinguished among its fellows by its more bulky form, by the golden brown head, bright cinnamon upper parts, and the large round black spots beneath, sharply contrasting with the pure white

Back Up the Game Laws

As the public grows to understand the business need of protecting our wild birds and animals and preserving our forests, endorsement of the hunting-license system spreads. Here and there remains some opposition, but it is so inconsequential as to be scarcely worth recording. The people know by now that unless birds are protected they will be shot out, and the logic of having the men who do the shooting pay a tax for the privilege is unanswerable.

Though violently opposed at first, the common fairness of the license system has won support everywhere, if for no other reason than because it is one of the most satisfactory methods yet devised of securing funds for game protection. This is not a question for sportsmen only—this saving of birds—but one of pertinence to all the people over all America. The value of birds to the agricultural interest has been so often exploited it seems needless to go over it again. So much is being printed on the subject in the magazines and the daily papers that it must be indeed an unintelligent person who today does not realize that bird protection is a question for all people, whatever their business interests: not for sentimental, but for purely commercial reasons. The most practical manner of securing help in this effort is the stimulation among the people of a sentiment supporting the game laws and supporting the wardens in the exercise of their duty. The game warden is doing a notable public service, and should be encouraged in the performance of that duty and upheld and honored in its discharge.

This season, in order to direct its work with added intelligence, the Biological Survey is making an effort to secure statistics as to the number of game birds and animals killed. It is impossible to do this except by the co-operation of sportsmen. Therefore, I urge all who go afield to observe the game laws, support the wardens, keep their killing within sportsmanly limits, and to send the figures as to the game killed to the game wardens of their respective states. This is for the purpose of gathering statistics as to numbers, so as to have definite figures for game preservation activity. Such a basis can be had only through a careful record of the hunters' kill each season. At present the figures are wholly guesswork. Every man who takes out a license should be required to return at the end of the season figures of his shooting on penalty of forfeiting his right to a license the following year. Such a system is being very successfully operated in Manitoba.—*Collier's Weekly.*

The Barn Owl (*Aluco pratincola*)

Length, about 17 inches. Facial disk not circular as in our other owls; plumage above, pale yellow; beneath, varying from silky white to pale bright tawny.

Range: Resident in Mexico, in the southern United States, and north to New York, Ohio, Nebraska and California.

Habits and economic status: The barn owl, often called monkey-faced owl, is one of the most beneficial of the birds of prey, since it feeds almost exclusively on small mammals that injure farm produce, nursery, and orchard stock. It hunts principally in the open and consequently secures such mammals as pocket gophers, field mice, common rats, house mice, harvest mice, kangaroo rats, and cotton rats. It occasionally captures a few birds and insects. At least a half bushel of the remains of pocket gophers have been found in the nesting cavity of a pair of these birds. Remembering that a gopher has been known in a short time to girdle seven apricot trees worth $100, it is hard to overestimate the value of the service of a pair of barn owls. One thousand two hundred and forty-seven pellets of the barn owl collected from the Smithsonian towers contained 3,100 skulls, of which 3,004, or 97 per cent, were of mammals; 92, or 3 per cent, of birds; and 4 were of frogs. The bulk consisted of 1,987 field mice, 656 house mice and 210 common rats. The birds eaten were mainly sparrows and blackbirds. This valuable owl should be rigidly protected throughout its entire range.

English Sparrow (*Passer domesticus*)

Length, about 6¼ inches. Its incessant chattering, quarrelsome disposition, and abundance and familiarity about human habitations distinguish it from our native sparrow.

Range: Resident throughout the United States and southern Canada.

Habits and economic status: Almost universally condemned since its introduction into the United States, the English sparrow has not only held its own, but has ever increased in numbers and extended its range in spite of all opposition. Its habit of driving out or even killing more beneficial species and the defiling of buildings by its droppings and by its own unsightly structures, are serious objections to this sparrow. Moreover in rural districts, it is destructive to grain, fruit peas, beans, and other vegetables. On the other hand, the bird feeds to some extent on a large number of insect pests and this fact points to the need of a new investigation of the present economic status of the species, especially as it promises to be of service in holding in check the newly introduced alfalfa weevil, which threatens the alfalfa industry in Utah and neighboring states. In cities most of the food of the English sparrow is waste material secured from the streets.

The Nighthawk (*Chordeiles virginianus*)

By Herman C. De Groat

Length: 9 to 10 inches.

Range: Northern and eastern North America, west to the great plains and British Columbia, and from Labrador south to the tropics.

Not to be confused with the whippoorwill. The latter lives in woodland and is chiefly nocturnal. The nighthawk often flies by day, when the white bar across the wing and its nasal cry are distinguishing.

Habits and economic status: The skillful evolutions of a company of nighthawks as the birds gracefully cleave the air in intersecting circles is a sight to be remembered. So expert are they on the wing that no insect is safe from them, even the swift dragonfly being captured with ease. Unfortunately their erratic flight tempts men to use them for targets, and this inexcusable practice is seriously diminishing their numbers, which is deplorable, since no birds are more useful. This species makes no nest, but lays its two spotted eggs on the bare ground, sometimes on the gravel roof of the city house. The nighthawk is a voracious feeder and is almost exclusively insectivorous. Some stomachs contained from 30 to 50 different kinds of insects, and more than 600 kinds have been identified from the stomachs thus far examined. From 500 to 1,000 ants are often found in a stomach. Several species of mosquitoes, including *Anopheles*, the transmitter of malaria, are eaten. Other well-known pests destroyed by the nighthawk are the Colorado potato beetle, cucumber beetles, chestnut, rice, cloverleaf and cotton-boll weevils, billbugs, bark beetles, squash bugs, and moths of the cotton worm.

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

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

The day is passed by the nighthawk in the woods, perched lengthwise on a

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

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

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

The Bird

By John Ruskin

The bird is little more than a drift of the air brought into form by plumes! the air is in all its quills, it breathes through its whole frame and flesh, and glows with air in its flying, like a blown flame; it rests upon the air, subdues it, surpasses it, outraces it—is the air, conscious of itself, conquering itself, ruling itself.

Also, into the throat of the bird is given the voice of the air. All that in the wind itself is weak, useless in sweetness, is knit together in its song. As we may imagine the wild form of the cloud closed into the perfect form of the bird's wings, so the wild voice of the cloud into its ordered and commanded voice; unwearied, rippling through the clear heaven in its gladness, interpreting all intense passion through the soft spring nights, bursting into acclaim and rapture of choir at daybreak, or lisping and twittering among the boughs and hedges through heat of day, like little winds that only make the cowslip bells shake, and ruffle the petals of the wild rose.

Also, upon the plumes of the bird are put the colors of the air; on these the gold of the cloud, that cannot be gathered by any covetousness: the rubies of the clouds, the vermilion of the cloudbar and the flame of the cloud-crest, and the snow of the cloud, and its shadow, and the melted blue of the deep wells of the sky—all these, seized by the creating spirit, and woven into films and threads of plume; with wave on wave following and fading along breast, and throat, and opened wings, infinite as the dividing of the foam and the sifting of the sea sand;—even the white down of the cloud seeming to flutter up between the stronger plumes, seen, but too soft for touch.

The Cardinal (*Cardinalis cardinalis*)

By W. Leon Dawson

Length: 7½ to 9 inches.

Range: Eastern United States, north to the lower Hudson Valley and the Great Lakes, west to the plains.

Food: The cardinal is a vegetarian. Seventy per cent of its food consists of berries, seeds, etc., but it also eats many insects, beetles and worms.

Probably four persons out of five, at least in many states, if asked to name their favorite songster, would reply promptly the red-bird. For who is there to the manor born whose heart does not flood with pleasant memories as he listens to our poet Naylor's words?

"Along the dust-white river road
The saucy Red-bird chirps and trills:
His liquid notes resound and rise
Until they meet the cloudless skies
And echo o'er the distant hills."

Not merely for the splendor of his plumage, but for the gentle boldness of his comradeship and the daily heartening of his stirring song, the cardinal is loved of all who know him.

Some years ago the cardinal had good reason to complain of our fondness, but now that wise legislation has forbidden his imprisonment he sings unfettered at many a door where he was formerly unknown. Always abundant in the South the species has of late increased rapidly in the North as well; and the time is not far distant when our Canadian neighbors can no longer say of it, "Casual only in southwestern Ontario."

Wherever known the birds are resident or nearly so. In winter they may gather in loose companies to enjoy the shelter of some favorite copse or lowland thorn-brake. At such a time it is a rare treat for two or three observers to "drive" the birds from cover. They will slip along unnoticed in unsuspected numbers until the last bush is reached; whence they will break for distant cover in twos and threes not without much remonstrance of sharp chips, and manifest reluctance to draw the gaze of a world in white. Thus I have seen them, a whole college of cardinals, rudely disturbed in secret session, but have always sought and found prompt shrift.

Both males and females sing, the latter perhaps with less force and frequency. A warm day in winter is welcomed as an excuse for song, but the male is most indefatigable during the nesting season. Fearless now he seeks some outlying branch or mounts the tip of the tallest tree and challenges attention. The whistled notes of the Red-bird, assertive, interrogatory, staccato and accelerando, are too well known to require characterization. The following syllabizations may serve to recall a few of the leading forms:

CARDINAL.
(Cardinalis cardinalis).
¾ Life size.

1. Ché-pew, ché-pew, wé-oo, wé-oo, wé-oo.
2. Whé-tew, whé-tew, whe-oo, whee-oo.
3. We-oo, we-oo, we-oo, we-oo, we-oo.
4. Chitikew, chitikew, he-wêêt, he-wêêt.
5. Tshew, tshew, tshew, tshew, tshew.
6. Who-y? who-y? who-y? who-y?
7. Bird-ie, bird-ie, bird-ie, tshew, tshew, tshew, tshew.
8. Bird-ie, bird-ie, bird-ie, bird-ie.

By the merest good luck I found one day how the cardinal got his red beak. Secreting myself in a log pile I imitated the notes of the screech owl—a favorite method of securing a muster of the local bird population. True to life a cardinal came charging up in great haste. Between his mandibles was a half-eaten wahoo-berry from which the rich red juice was flowing, staining the bird's bill completely and running down upon his breast. The suggestion might lead further, but I do not press it.

The cardinal is first of all grammivorous; but this term must be understood to cover the consumption of weed-seeds of many sorts, including some hard-coated specimens which few other birds are able to crack open. Insects are also eaten freely, and berries "in season." If encouraged the bird will glean about our premises in winter, haunting the grape trellis and garden, and roosting, it may be, in the arbor vitae. The young are fed from the first week by regurgitation, but after that the parents supply them grain and insects directly or assist them in cracking seeds.

After the robin the cardinal's nest is the easiest to find, and perhaps the most common. Nests are usually placed low in bushes, or at moderate heights in thickets and saplings. Grape-vine tangles and porch trellises are favorite places, and occasionally nests are saddled upon horizontal limbs of trees.

In construction the nest varies from tidy to disreputable, according to skill and season. A typical one is composed externally of long stiff weeds and leaf stems, and measures roughly seven inches across, with an extreme of thirteen inches. Next comes a mat of dead leaves, mostly beech. Inside this in turn is a tough basket work of grape-vine bark and a lining of fine fresh grass cured in the nest. It measures, inside, three and a quarter inches in width and two and a half in depth.

The eggs are quite variable; even those in the same nest are hard to reconcile, both as to shape and markings. Because of the similarity in appearance, cowbirds' eggs are easily imposed upon the cardinal. Professor Jones and I once found a nest with the bird on whose three eggs were to the best of our judgment the combined products of as many cowbirds.

The young hatch out in about fourteen days, and are ready to leave the nest in ten days more. The father is especially devoted to his offspring, and often cares for them while the female is busy with another nest

Rev. W. F. Henninger informs me that a German farmer of his acquaintance kept a cardinal in captivity for almost exactly thirty years. The bird was not taken from the nest by its long-time owner and its age at the time it came into possession was not known. The captive songster became a great favorite and was for years regarded almost as a member of the family.

The Song Sparrow (*Melospiza melodia*)

By Henry W. Henshaw

Length: About 6¼ inches. The heavily spotted breast with heavy central blotch is characteristic.

Range: Breeds in the United States (except the South Atlantic and Gulf States), southern Canada, southern Alaska, and Mexico: winters in Alaska and most of the United States southward

Habits and economic status: Like the familiar little "chippy," the song sparrow is one of our most domestic species, and builds its nest in hedges or in garden shrubbery close to houses, whenever it is reasonably safe from the house cat, which, however, takes heavy toll of the nestlings. It is a true harbinger of spring, and its delightful little song is trilled forth from the top of some green shrub in early March and April, before most of our other songsters have thought of leaving the sunny south. Song sparrows vary much in habits, as well as in size and coloration. Some forms live along streams bordered by deserts, others in swamps among bulrushes and tules, others in timbered regions, others on rocky barren hillsides, and still others in rich, fertile valleys. With such a variety of habitat, the food of the species naturally varies considerably. About three-fourths of its diet consists of the seeds of noxious weeds and one-fourth of insects. Of these, beetles, especially weevils, constitute the major portion. Ants, wasps, bugs (including the black olive scale) and caterpillars are also eaten. Grasshoppers are taken by the eastern birds, but not by the western ones.

Sexes alike; nest usually on the ground, of coarse grasses, rootlets, leaves, lined with similar but finer material; eggs four or five; song a short, sweet melody; call note a loud, sharp chip.

Although this hardy little songster is by no means confined in his selection of a domicile to the vicinity of water, if you would find him with the least difficulty or in the greatest numbers, you will do well to seek him in the neighborhood of pond or stream or of marsh land with its encircling clumps of convenient willows and its straggling rim of fencing. Here, ere half the blustering days of March have blown by and before the ice has cleared from the ditches, you may hear again the cheery song of some of his tribe who have arrived a few days in advance of the main body to spy out the land, perhaps, or to take possession of the old familiar places. Here they seem to prefer to stay at first: later, they seek the uplands and venture about the abodes of men.

Unlike the chickadee, wren, or even the chipping sparrow, the song sparrow does not acknowledge his human neighbor. He may live near him but not with him. He makes no advances beyond accepting occasionally the bounty provided for his kind on the birds' lunch counter through the meager days of March and April. We wish it were otherwise, but the sympathy and appreciation are only on the side of man.

The sparrow is a member of the largest and one of the most successful families of birds, the finch family. Among his relatives are the grosbeaks and finches. Here, nature was lavish with color as the cardinal, rose-breasted grosbeak, purple finch and goldfinch show; but when it comes to the sparrows, the bright colors seem to have given out. Mr. Chapman explains that the former live more generally in the trees while "the brown, streaked sparrows are, to a large extent, field-or plain-inhabiting, and their neutral colors are therefore a means of protection in the exposed situations they inhabit." The inference seems to be that the tree-inhabiting birds are exposed to fewer dangers than the ground builders—and may, therefore, take more chances in the wearing of gaudy clothing, though even here, the female, the nest tender, is very unpretentious and sparrow-like in her mode of dress.

Our song sparrow, being a ground builder, though he sometimes builds in low bushes, follows the style and has a dress that matches finely the grass, old leaves, earth, dead twigs and the life that form the surroundings of the nest. He is just sparrow-colored, the under parts are light, but heavily streaked with black and dark brown. Fortunately for the bird student these dashes run together, on the middle of the breast, into a conspicuous blotch; and at the corners of the mouth into conspicuous streaks that extend down the sides of the throat. These three marks are the quickest and surest means of identification. There are, to be sure, grayish lines running through the middle and sides of the red-brown crown, but these are more likely to be noticed after you have learned your bird than as a means of knowing it.

With such a modest dress, with no bright markings to suggest a name, his admirers have, nevertheless, been at no loss for a very fitting one. Handsome is that handsome does, and he does one thing extremely well. He sings.

In the bleak days of February, and March, he greets the blizzard with a song. In early April he is full of song, but as April melts into May and May into June, with mating and nesting going on, he is in an ecstasy of delight. He is original, for though he retains the family tune, he sings it with many variations. "Fifteen varieties of its song have been noted in one week, and the same individual often has a number of tunes in his repretoire."

Mr. Abbott, in his notes on this plainly clad sparrow, says that he proclaims himself as "a good Pres-pres-pres-pres-by-té-rian.' Thoreau heard in the more customary song, "Olit, olit, olit—chip, chip, chip, che-char,—che-wis, wis, wis!" and in one of the variations "Maids, maids, maids, hang on your teakettle-ettle-ettle."

"He comes in March, when winds are strong,
And snow returns to hide the earth;
But still he warms his heart with mirth,
And waits for May. He lingers long
While flowers fade; and every day
Repeats his small, contented lay;
As if to say, we need not fear
The season's change, if love is here
With 'sweet—sweet—sweet—very merry cheer.'

He does not wear a Joseph's coat
Of many colors, smart and gay;
His suit is Quaker brown and gray,
With darker patches at his throat.
And yet of all the well-dressed throng
Not one can sing so brave a song.
It makes the pride of looks appear
A vain and foolish thing, to hear
His 'sweet—sweet—sweet—very merry cheer.'"
—From the *Song Sparrow*, by Henry Van Dyke.

The Baltimore Oriole (*Icterus galbula*)

By Charles Bendire

Length: 7½ to

Range: Eastern United States, north to Ontario, west to Rocky Mountains.

About as much a bird of Illinois as of Maryland.—A. W. M.

Lord Baltimore was signally honored when one of our finest birds was christened with his name because it chanced to carry the family colors, black and yellow. Orioles are a tropical group and the luxuriant tropical forests are bright with the gleaming colors of many species of these beautiful birds. Only a few have found their way into the temperate zone, but not one of the tropical species is garbed in more tasteful dress than this exotic which has adopted the elms and sycamores of the temperate zone for its summer home. When chill November winds have stripped our shade trees of their foliage then are revealed the long, pendant nests, wrought with so much skill and patience by Madame Oriole, and we begin to realize how many of these birds summer with us. Suitable material for the oriole nest is none too easily found, and the weaver is not so fastidious that she will not accept strings and yarn of any color which are hung out for her convenience; so that at the end of the oriole season the bird lover who is willing to co-operate with a pair of nature's weavers may fall heir to a nest made to order, so to speak.

BALTIMORE ORIOLE
½ Life-size.

The oriole is as useful as it is tuneful and ornamental. Caterpillars constitute the largest item of its fare, including many not touched by other birds. It eats also beetles, bugs, ants, grasshoppers and spiders. Particular mention must be made of the boll weevil, of which the oriole is a determined foe. The small amount of fruit taken by the oriole, including cherries, is insignificant when compared with the long list of harmful insects it destroys.

Aside from its showy plumage, its sprightly and pleasing ways, its familiarity with man, and the immense amount of good it does by the destruction of many noxious insects and their larvæ, including hairless caterpillars, spiders' cocoons, etc., it naturally and deservedly endears itself to every true lover of the beautiful in nature. Only a short-sighted churl or an ignorant fool would begrudge one of these birds the few green peas and berries it may help itself to while in season. It fully earns all it takes, and more, too.

The Baltimore oriole usually arrives with a most invariable regularity about May 10th, rarely varying a week from this date. About this time the trees have commenced to leaf, and many of the orchards are in bloom, so that their arrival coincides with the loveliest time of the year. The males usually precede the females by two or three days to their breeding grounds, and the same site is frequently occupied for several seasons. It is very much attached to a locality when once chosen for a home and is loath to leave it.

Few birds are more devoted to each other than these orioles, and I am of the opinion that they remain mated through life. Their favorite haunts in our eastern states are found in rather open country, along the roads bordered with shade trees, creek bottoms, orchards and the borders of small timbered tracts. It is equally at home in villages or cities of considerable size as long as they furnish suitable trees for nesting sites. It shuns swampy and marshy tracts and extensive forests.

A very pecular note, a long-drawn-out chattering, chaë, chaë, chaë, is apt to draw one's attention to it on its first arrival, and this is more or less frequently uttered throughout the season.

This note is difficult to reproduce exactly, and I find its songs still more so. One sounds somewhat like hioh, hioh, tweet, tweet; another, something like whee-he-he, whee-he-he, oh whee-he-he-woy-woy. This last is much more softly uttered than the first. Mr. T. Nuttall describes one of their songs as tshippe-tshayia-too-too-tshippe-tshippa-too-too, and there are others impossible to render. The young after leaving the nest utter a note like he-he-hae, and another like heek-heek-he, varied occasionally by a low twittering. Shortly after their arrival they sing almost incessantly when not eating, but later in the season when they have their always hungry family to provide for they are more silent. Their flight is strong, swift and graceful and they are far more at home on the wing than on the ground, where they are seldom seen except when picking up some insect or in search of nesting material.

In the vicinity of Washington, District of Columbia, nidification commences

about the middle of May, and full sets of eggs may be looked for the last week in this month, while in central New York, Connecticut, Wisconsin, southern Minnesota, etc., they usually nest from eight to fourteen days later.

Few of our native birds build a more ingeniously constructed nest than the Baltimore oriole, and it must always be considered a most interesting example of bird architecture, taking time, intelligence and good judgment to construct. From five to eight days are usually required for its completion.

Some nests show a great superiority over others in general make-up and workmanship; these are perhaps the product of old and experienced birds, while the younger ones, from lack of judgment, often select poor sites, or else secure their nests carelessly to the supporting twigs, so that many are destroyed before the young reach maturity.

Ordinarily the nest of the Baltimore oriole is pensile, and is usually suspended by the rim from the extremities of several slender branches to which it is attached.

Others, besides being fastened by the rim, which is always neat and smoothly finished, are attached to some perpendicular fork or limb by one of the sides, thus steadying the nest and preventing it from swinging too much during the heavy winds. In a truly pensile nest some of the eggs are occasionally cracked by the violent swaying of the slender twigs to which it is attached, while if fastened at the side this occurs very rarely, unless the entire limb is torn off. Both sexes assist in nest building.

The materials used for the framework consist principally of decayed fibers, such as those of the Indian hemp, the silk of the milkweed (*Asclepias*), nettles (*Urtica*), and when located near human habitations, of horsehair, bits of twine, yarn, strips of grapevine bark, etc. With such materials a strong purse or pouch-shaped nest is woven and firmly attached to one or more forked twigs by the slightly-contracted rim, and it is usually placed in such a position that the entrance is well shaded by leafy twigs above

All sorts of materials are used in lining the bottom and sides of the nest—cotton, wool, tow, rags, cattle hair, fur, fine strips of bark, green moss, fine grass and plant down. They readily avail themselves of any suitable materials, such as yarn, which may be thrown out to them, but prefer plain to gaudy colored stuffs.

The color of some of the nests varies considerably according to the materials used; some look almost white, others a pale straw color, and the majority smoke-gray. In the south the Baltimore oriole builds occasionally in bunches of the gray moss.

The nests are usually suspended from long, slender drooping branches of elm, maple, birch, weeping-willow, buttonwood, sycamore, oak, aspen, poplar, Norway spruce, apple, pear and wild cherry trees; but in some localities they are frequently built in the very top and center of a tree where it is almost impossible to see them. They are placed at various heights from the ground, from eighty to

fifty feet and more, and frequently in utterly inaccessible positions. The Baltimore oriole is tolerant and amiably disposed toward its smaller neighbors, and such are often allowed to nest in the same tree and occasionally within a few feet of its own nest.

Incubation lasts about fourteen days, and I think the female attends to this duty almost exclusively. Both sexes are extremely devoted to each other, as well as to their eggs and young, defending these bravely against all intruders. From four to six eggs are laid to a set, most frequently four, though sets of five are not uncommon, while sets of six are rather rare. One is deposited daily, and only one brood is raised in a season. The young are able to leave the nest when about two weeks old, and may be seen sitting on some of the branches close by and clamoring for food. They are fed entirely on insects, etc., and are faithfully cared for by the parents until able to provide for themselves. The migration from the northern sections of their breeding range to their winter homes in Central America begins usually in August, but occasionally some birds linger until September.

Birds of the Prairie

By Edward B. Clark

In the journey southwest from Chicago the traveler hour after hour passes over a prairie country. Nowhere, as far as eye can reach, is there a hill to hedge in these seemingly limitless fields. It needs no native of these parts to explain to the traveling stranger why it is that this great reaching plain is called the Grand Prairie. There is a grandeur apart from mountains, cañons, and rushing rivers. It is the grandeur that attaches to the thought of vast extent, unbroken and unrestricted.

The Grand Prairie is the home of the birds that love the level grass-grown stretches, the great corn fields, and the low swales that hold their moisture even in the burning heat of summer. The meadowlarks nest in countless numbers all over the face of the prairies. The Western lark is a somewhat smaller bird than its Eastern cousin, and it is far more friendly. Go where you will on the prairies in the spring-time you will hear the lark's clear, sweet whistling note. Sometimes the bird's music has a bell-like quality, but I have always been pleased to think that this bit of sweetness is for the special benefit of Madame Meadowlark, hidden away on her nest in the prairie grass. An attempt was made recently in the Illinois legislature to put the meadowlark on the game list. The farmer members said that the bird was too good a friend to be shot for pot-pies, and the bill never went beyond the first reading. I spent part of one winter in a wooded section of southeastern Texas. Nothing surprised me more than to find the meadowlarks there in abundance, and making their habitation in the

woods. The woods were open, to be sure, but the surroundings were totally unlike those which the lark seeks in its Northern summer home.

The horned or shore lark is another common bird of the open prairies. There are two varieties, the horned lark proper, and the prairie horned lark. Both of the birds occur in the Middle Western states. They sing on the wing, but their notes, while not absolutely unmusical, have but little to commend them to the ear. With one exception, my experience with these larks has been that, apart from the breeding season, they go in small detached flocks. The one exception was the sight of a flock of the birds flying above a great field about sixty miles south of Chicago. I don't dare venture to give an estimate of the number of individuals in the gathering. The old comparison of the swarm of gnats is too weak to hold. No flock of blackbirds that I have ever seen equaled in size this gathering of the larks. The birds were constantly going to the ground in mass, and then rising again in a sort of hovering flight Every lark in the vast concourse was singing its twittering song. It was the last week in March, and before three weeks had passed the birds had separated and many of them were nesting. On April 15th I found a nest containing five eggs on the ground within a few feet of a pool of water, the surface of which was frozen. I flushed the lark from the nest, and after taking one fleeting glimpse at her egg treasures, I went hastily away. The bird was back covering the eggs before I had gone a distance of ten feet in my retreat. How the horned larks, building as early as they do, manage to bring up such a numerous progeny in the face of perils of frost and flood is beyond my wit to explain.

The prairie-chickens and the quail are still abundant throughout the Middle West. In some of the states good laws have resulted in an increase in quail numbers, and the prairie-chickens in many sections fairly may be said to be holding their own. These birds live veritably in the shadow of death. They are shot ruthlessly, and yet they have learned to match their own cunning against that of man. They are in very truth game birds, and one cannot scrape acquaintance with them on the same terms with which he meets the robin and the bluebird. Nevertheless, that walk afield in the cool of the evening will lack much when the whistle of Bob-White fails to come down the wind from the fence post near the corn field.

There are places in plenty on the Grand Prairie where birds that are not essentially field lovers make their homes. Along the tree-bordered streams, in the trees of the village streets, and about the farm-houses may be found nearly the whole range of songsters, with the woodpeckers, the flycatchers and the rest. It was while on an outing for the purpose of getting nearer the hearts of the prairie birds that I had an interesting experience with the members of a bird family, that I was going to say wouldn't know a prairie if they saw it. I stayed for a month in the early summer in a little village on the Grand Prairie. I lived during my stay in what was half hotel, half farm house. At one time in the life of the proprietor it was his determination to have his place as hotel-like as cir-

cumstances would admit, and to this end he had put up a real lamp-post which held in position a steady light for the direction of possible travelers. Not many guests were attracted and the light fell into disrepute; the wick was no longer trimmed and the match no longer applied. The post, however, was suffered to stand. It happened that it stood within ten feet of my ground floor bedroom window. The morning after my arrival at the little prairie inn I was awakened by a sweet song from without. I drew the curtain aside and discovered the singer. It was a house wren that had taken perch on the top of the lamp-post and was saluting the rising sun. The little fellow sang all the time I was dressing, and for the next two weeks I don't think that I knew five minutes of the daylight hours to pass, while I was in the vicinity of the house, that the wren's song was absent from my ears. He certainly took the palm for musical industry, and I am glad to record that he afterward proved as industrious in what some people may claim to be more useful lines, though he is a savage who doubts that music has its uses.

The lamp-post was surmounted by a conical-shaped tin arrangement. There were apertures at the edges, made so as to provide for proper combustion of the light. It did not take me long to find out that a pair of house wrens had pre-empted the tin top of the lamp-post for a home. I have said that the house wren in his morning solo was saluting the rising sun. He was doing nothing of the kind. He was singing to his mate, who, just below him, was busy keeping her eggs warm. Birds always sing for the benefit of their mates. I lay for ten minutes one day on the ground under a tall osage orange from the top of which a brown thrasher was singing his ravishing song. My only thought was that the thrasher was singing to me. I flattered myself. I finally saw a movement in the thick part of the tree just below the singer's perch, and in another instant I discovered the presence of the female. She had been there the whole time, and it was upon her that the brown lover above had been showering his vocal sweets. That experience taught me a lesson in humility.

It did not take me long to make a friend of the house wren. Perhaps it was toleration rather than friendship he extended. Here is humility again, for I cannot get over the brown thrasher experience. The wren would let me stand at the foot of the lamp-post with my head within three feet of him. After his first fear was over he would not stop his song at my approach. I cannot understand to this day how such a little throat could hold such a volume of song. Mrs. Wren seldom left the nest. Her husband would take food to her. He had the secret of the lurking place of many spiders, and his food-collecting was but the work of a minute. I do not think that the male bird once relieved his wife of the duties of incubation. She made no complaint as far as I could discover. The wren had charged me no admission to his musical entertainments but I found a chance to repay him. I saved his home from being carried off bodily by some village small boys. I witnessed the leading forth of the young wrens from the lamp-post home. They came out one at a time. It seemed as if they would never

stop coming. Seven of them, one after another, took a diagonal course to the grass. The mother soon coaxed them to a woodpile about which they stayed for a week. There was perhaps something in the cabalistic number, seven. None of the little ones met with harm, though there were two full-grown cats on the premises. While the young were in the nest both the parents were kept busy feeding them. Not far from the house was a brick wall. Ivy clambered over a part of its surface. The wall was half sunlight, half shadow, and it was the home of thousands of spiders. The wrens had discovered the insects long before, for it was from the direction of the wall that the male bore spiders to his sitting mate. I have seen it stated in the books that the wrens feed their young about thirty times an hour. My lamp-post wrens made a much better average than that. I learned from my host of the inn that the wrens had built on the lamp-post top for three years. I trust that the same pair will make music and kill spiders at the same old stand for years to come.

This question of the feeding of the young brings to mind the fact that in many bird households some of the young grow much faster than the others. This has been accounted for on the ground that the bigger youngsters receive the greater share of the food, either through the possible favoritism of the parents or because the adult birds are unable to remember which of the offspring they fed last. It is my belief, based, however, upon only two observations, that the old birds feed the young ones impartially and in turn. In many human families some of the boys and girls are sturdier than their brothers and sisters. In these human families it will be found generally that the weaker ones get the more attention and the better care. There are reasons, doubtless, for individual cases of slow growth and feeble constitutions in bird families as well as in the families of the humankind. I once saw the fledgeling members of a wood pewee household ranged side by side on the dead limb of a tree growing out of the depths of a ravine. A bridge spanned the ravine from bank to bank and ran close to the treetop upon which the young flycatchers were perched. One of the parent birds sat on the limb at the head of the family line. Every minute or two the parent would launch out into the air, catch a flying insect, return to the limb, and poke the morsel into the open bill of one of the young. As soon as another fugitive fly happened along the operation was repeated, but the old bird, as capture succeeded capture, invariably would feed the youngster whose turn it was to be fed. Not once did two insect morsels go down the same throat twice in succession. If one of the young received more food than another, it simply arose from the fact that some of the bug specimens captured were larger than others. In an hour's time the parent bird made forty apparently successful hunting trips. Several times either the aim was missed or the bird ate the quarry itself. It may be argued that it is an easy matter for a mother with her three children ranged in line on a limb to keep in mind the order of feeding, whereas when the youngsters are all jumbled up in a nest, and perhaps constantly changing places, the keeping the feeding order in the parent's head may be impossible.

It hardly seems that we are giving credit for too much intelligence to a robin or a bluebird or a jay when we say that doubtless the parents know one youngster from another as well as any human mother knows the difference between Tom and Bill, or Maud and Jenny.

The mourning dove is one of the most abundant birds of the Grand Prairie. The farmers say that it dearly loves corn. The result of this claim of the farmer has been that the dove has been placed upon the list of game birds, and is now shot on sight in every Illinois field from Cook County to Grand Tower. The law granting the right to shoot the doves was passed only recently. That is why it is the birds are still abundant. It was always a source of wonder to the bird-student that the tribe of mourning doves was so great even under the conditions of the law's protection. The bird lays but two eggs, and the nest is so poorly constructed that a heavy rain-storm frequently utterly demolishes it. The mourning dove's nesting habits are erratic. In some sections of the country it builds only upon the ground, while in other sections the nest is invariably placed either in a tree or on a stump top. One thing in favor of the perpetuation of the mourning dove's species is the fact that the birds generally nest twice in a season. I saw a curious thing once in a Grand Prairie orchard. A male mourning dove was feeding two fledgeling young that were perched on a limb not four feet removed from the spot where the mother bird was sitting on two newly laid eggs. I met the father dove frequently during the next week. He had led his charges away from the nest, but he was attending faithfully to the duties of feeding the youngsters and of teaching them to fly. The nest with its eggs was on a limb that had been broken away partly from the body of the tree. How the eggs were contained by the few wisps of straw and the twig or two that did service as a nest was a puzzle. As it was the mother had to be content that season with one brood, for a heavy wind broke the limb on which her second home was placed completely away from the trunk and sent eggs and nest tumbling to the ground.

In the same Grand Prairie orchard I found the nest of a yellow-billed cuckoo, which showed but little more evidence of a builder's ability than did that of a mourning dove. From beneath the limb upon which it was placed one could see the sky through the nest. There were four eggs in the ramshackle structure, and it is a pleasure to say that they escaped destruction in the storm that brought disaster to the home of the dove. The cuckoo loves caterpillars. When a father and a mother cuckoo have four lusty young ones in the nest, as was finally the case with this Grand Prairie pair, they will do more good in the way of caterpillar-slaying than will four pairs of any other bird species under the sun. There is something uncanny about the cuckoo. Its movements as it glides along the branches through the thick foliage suggest the wanderings of a restless spirit. The bird can make plenty of noise when it chooses, but when it is being watched it usually preserves a silence that strengthens the uncanny feeling that its movements impart.

There are thirty-five kinds of American cuckoos, so it is said, but only two of them, the black-billed and the yellow-billed, are familiar to those of us who search the northern fields of the Middle West. In general appearance the two birds are much alike, the main difference being expressed by their respective names. The yellow-billed cuckoo is much the more common in nearly all places. The chances are that you will hear the bird before you see it, for its note attracts instant attention. Do not expect the American cuckoo to say "Cuckoo." It won't; the utterance of that well-known note is left to the English bird, and to the little wood and metal creatures that poke their heads out of the tops of Swiss clocks every hour and proclaim the time. The cuckoo's note sounds almost exactly like the first four or five utterances of a stuttering person who is trying hard to twist his tongue into shape to say some simple word. When you hear from the heart of some thick-leaved tree a sound like "uk-uk-uk-uk-uk-uk-uk-uk," you may make up your mind that the cuckoo has stopped long enough from his laudable work of caterpillar eating to attempt to say a few words. In many farming districts the cuckoo is known as the rain crow, because it is supposed to wax noisy just before a shower. I have known the bird to be a poor prophet, and one that soon became without honor even with those who hitherto had pinned to it their faith. I never knew the cuckoos to be so noisy as they were one July month in northern Illinois when the drought killed almost every green thing in the land.

California Woodpecker (*Melanerpes formicivorus and races*)

Length, about 9½ inches. Easily distinguished from its fellows by its general black color, white forehead, throat patch, belly and wing patch.

Range: Breeds from northwestern Oregon, California, Arizona, and New Mexico south through lower California to Costa Rica.

The California woodpecker is a noisy, frolicsome bird and by all odds the most interesting of our woodpeckers. Its range seems to be determined by that of the oaks upon which it lives and from which it draws a large part of its subsistence. In California the bird is known to many by the Spanish name, *carpintero*, or carpenter, and its shop is the oak, in the dead limbs of which as in the bark of pines, it bores innumerable holes, each just large enough to receive an acorn. That the birds do not regard the filling of these storehouses as work, but on the contrary take great pleasure in it, is evident from their joyous outcries and from the manner they chase each other in their trips from tree to tree like boys at tag. In California many of the country school houses are unoccupied during the summer and the woodpeckers do serious damage by drilling holes in the window casings and elsewhere with a view to using them as storage places. As long as the acorn crop lasts, so long does the storing work go on. Meanwhile the jays and squirrels slip in and rob the woodpecker's larder. Though this woodpecker eats insects, including some harmful ones, they form less than a third of its entire fare.

The Red Bird

I watch his wings in thickets dim,
For sunset seems to follow him—
Sunset from some mysterious West
Whose crimson glory girds his breast,
A winged ruby wrought of fame,
Whence comes his beauty? whence his name?
Clear as a bright awakening beam
Through the vague vista of a dream,
An answer comes. I seem to feel
The flash of armor, glint of steel,
The whir of arrows quick and keen,
The battle-axe's baleful sheen,
The long, relentless spear whose thrust
Makes the mad foeman writhe in dust;
The din of conflict and the stress
Of war's incarnate angriness; * * *
A wavering mass; * * * a panic wrought
Swift as some stormy burst of thought:
Then distance hides a vanquished host,
And sound becomes a wandering ghost.
But soon I see, half poised in air,
And stricken by a nameless fear,
A small, brown-breasted bird, whose eyes
Are clouded with a deep surprise—
The earliest bird with terror rife
At wild waste of human life.
How soon his dread to wonder turns,
As downward where a life-stream burns
He darts and dips his quivering wings,
While o'er his heart the crimson clings!
With ruthful eyes and reverent face
He hovers slowly o'er the place:
And when at last his wings are spread,
A lurid lustre crowns his head,
And his bright body soars afar,
Red as autumnal sunsets are. —*Hayne.*

The Black and White Warbler (*Mniotilta varia*)

By Gerard Alan Abbott

Length: 4½ to 5½ inches.

Range: Eastern North America. Breeds from central Mackenzie, southern Keewatin, northern Ontario, Newfoundland, Nova Scotia and New Brunswick to eastern Texas, Louisiana, central Alabama and northern Georgia, west to South Dakota; winters in Florida and from Colima and Nuevo Leon to Colombia, Ecuador and Venezuela.

A warbler in form and general make-up, a creeper by profession and practice, this readily identified species, in its striped suit of black and white, may be observed in any bit of eastern woodland. Here it flits from tree to tree or climbs over the trunks and branches, scanning every crack and cranny for the insects that constitute its chief food. Though not a lover of open country, it frequently visits the orchard, where it performs its part in the task of keeping insect life within due bounds. It nests on the ground and hides its domicile so skillfully that it is not often found. None of the warblers are noted as songsters, but the black and white creeper, as I like best to call it, emits a series of thin wiry notes which we may call a song by courtesy only. In scrambling over the trunks of trees it finds and devours many long-horned beetles, the parents of the destructive root-borers; it also finds weevils, ants and spiders.

Although placed at the head of the family of wood warblers, this modest bird comes more naturally into comparison with creepers and nuthatches. He clings and creeps, or rather hops, along the bark of the trunk and the larger branches. He lacks much, it is true, of being the methodical plodder that the brown creeper is; he covers a great deal more surface in a given time and is content with a rather superficial examination of any given territory. Then again he secures variety, not merely by tracing out the smaller limbs, but by moving in any direction—up or down or sidewise—or even by darting into the air now and then to capture an insect. Not infrequently he may be seen gleaning from the bark of bushes and saplings near the ground, or again in the tops of the very tallest elms. Apple trees are cherished hunting grounds, and it is here that one may cultivate a really intimate acquaintance.

The black-and-white is among the earlier migrant warblers, coming as it does during the last week in April and before the leaves are well out. At this time it is quite a conspicuous bird, in spite of the fact that its striped coat roughly approximates to the lights and shadows in the bark of a tree; but it is usually silent. When it does speak, a few days later, its voice is a wiry, squeaking song, likely to be lost to ear altogether amid the full chorus of warbler week; but when the rush is over the singer will be heard. At best the song is a tiny sibilation of no great carrying power: "Squeech, weech, weech, weech, weech," lisped out in two keys is one rendering.

BLACK AND WHITE CREEPING WARBLER.
About Life size

List of Forty-Eight Colored Plates

Index

Index—Continued

QL681
.B57
1913
v.1

Birds and nature.