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Nesting Birds of Iowa

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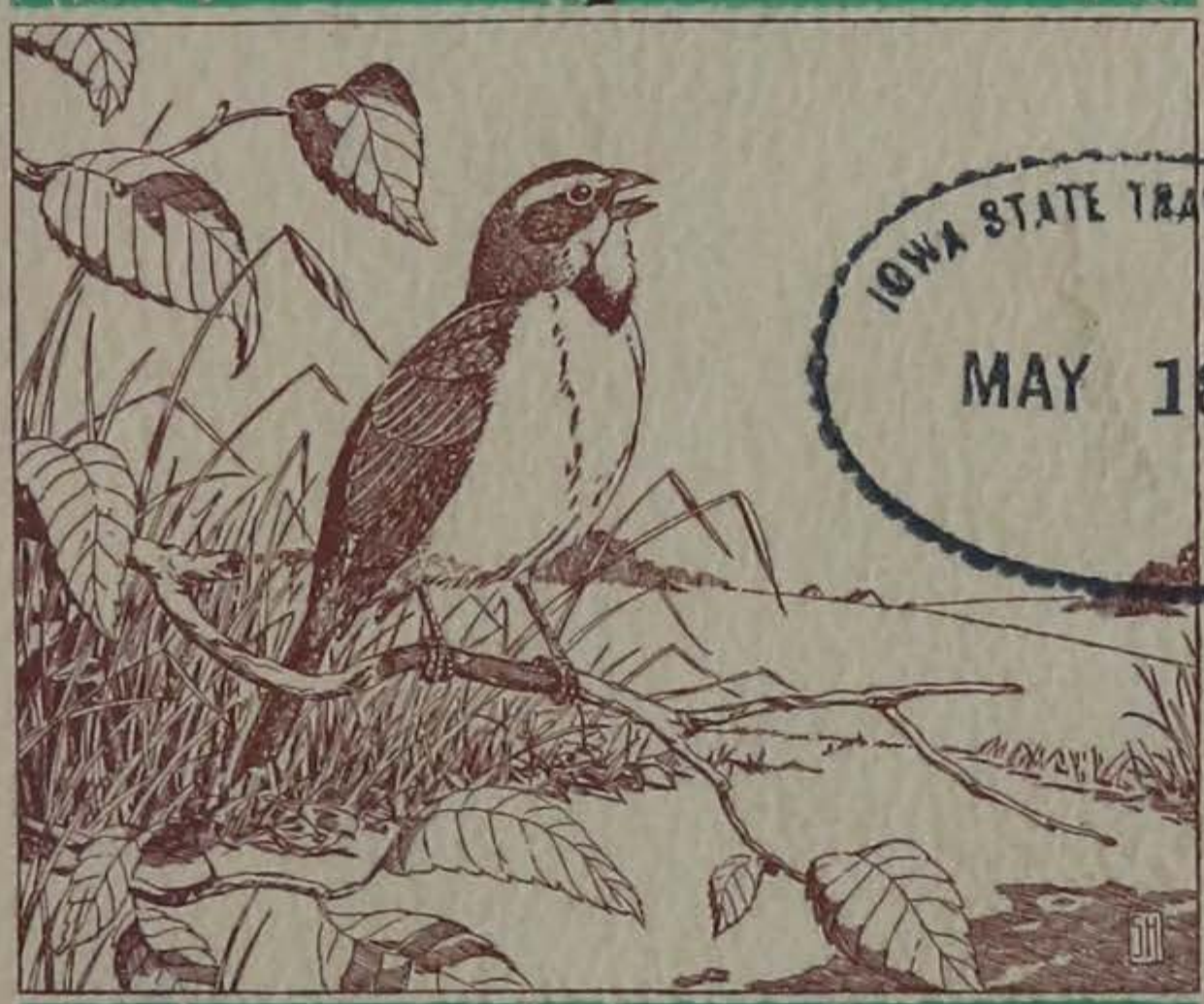
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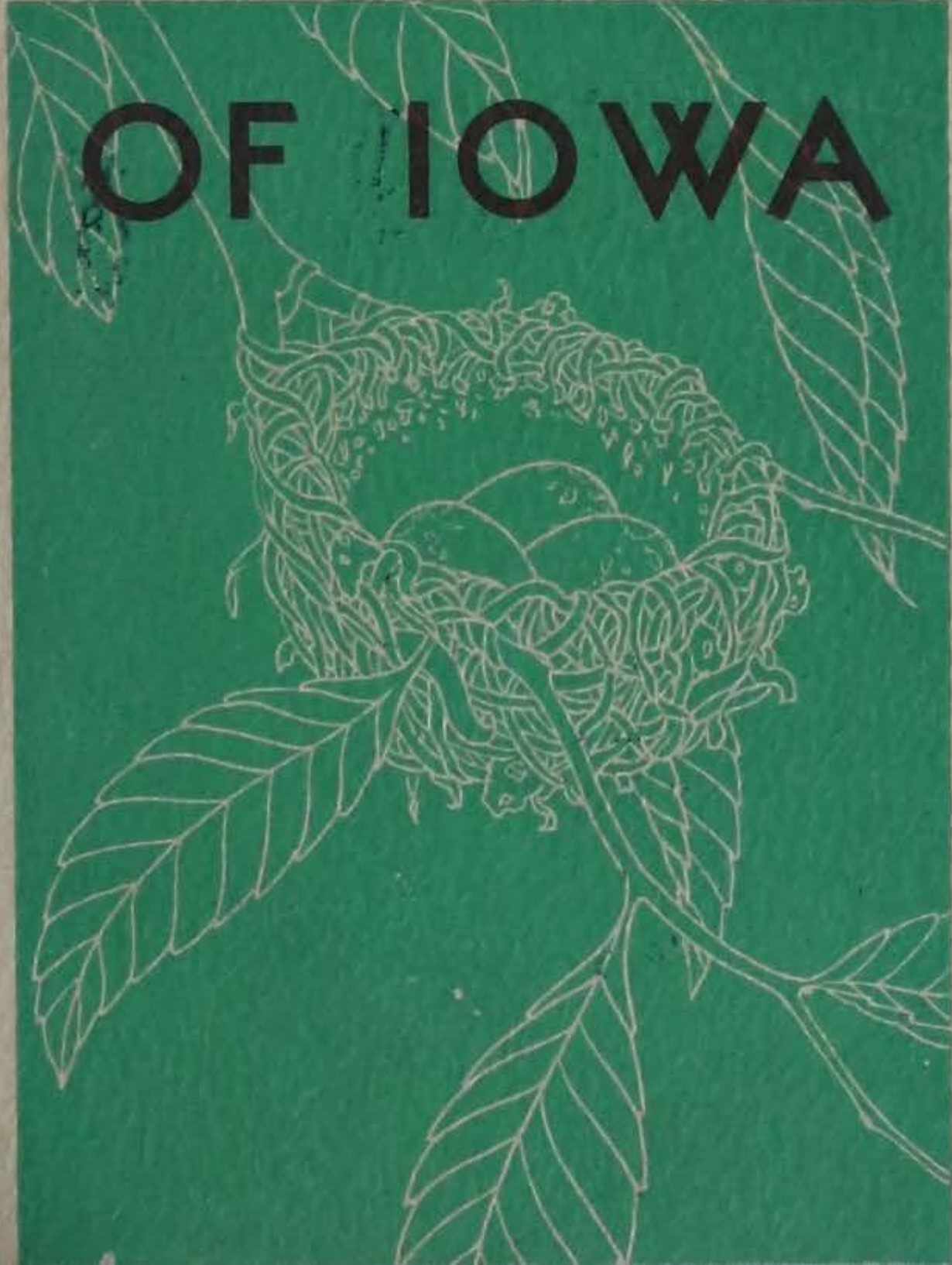
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Iowa Birds

# Nesting Birds



## OF IOWA



### COLOR RECOMMENDATIONS

*Much of your success in coloring the pictures is determined by the color set. Colored pencils or hard crayons are recommended, for soft or wax crayons are apt to rub and smear from one page to another. It is advisable that the color set should include: Dark red, light red, dark blue, light blue, yellow, dark brown, light brown, green, orange, purple, gray and black. The different shades may be obtained from a smaller set by pressing lightly for light shades and heavily for dark shades.*

*A plate which shows the outside parts of a bird may be seen on the inside of the back cover.*

*To assist bird students in quick identification of birds in the field, outstanding characteristics in the color description are in bold italic.*

# *Nesting Birds of Iowa*

by

THOMAS G. SCOTT

*Extension Service in Agriculture and Home Economics,*

and

GEORGE O. HENDRICKSON

*Department of Zoology and Entomology.*

*Illustrated by* SID HORN

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# Nesting Birds of Iowa

By

THOMAS G. SCOTT AND GEORGE O. HENDRICKSON

## BIRD RESETTLEMENT

Birds command the attention of everyone. The colors of their plumage and the qualities of their songs provide pleasant additions to the countryside. Their home-making activities present stories from life. They are the natural assistants to farmers in the fight against weeds, insects and rodents. Little wonder then that man, desiring to benefit by the presence of birds about his lands, should offer homes for feathered tenants.

How hopefully the spring birds must inspect our yards, orchards, groves and fields in search of nesting places. Disappointment must be frequent, for the removal of hollow trees, dead limbs and fence row thickets has greatly reduced the number of natural bird homes. Nest boxes of the proper construction and location are readily accepted by hole-nesting birds as substitutes for natural homes.

Selection of the nesting area generally is made by the male bird. Perhaps that is why the males of many species appear before the females in northward migration each spring. The male announces the location of the nesting territory to the bird world in song. Each pair of birds has a definite idea as to the size of its holdings, and some, such as the House Wren and Blue Jay, enforce the trespass law vigorously. Nest boxes should be located with respect for territorial selections in order to eliminate fighting among bird families and thereby increase the number of inhabited boxes.

## BIRD HOUSES

Working plans for single compartment nest boxes are shown in fig. A.\* Each bird family should have a box of definite dimensions (table 1). Black-capped Chickadees, White-breasted Nuthatches, Tufted Titmice, woodpeckers, Screech Owls and Sparrow Hawks may accept nest boxes of proper construction. These birds seem to prefer homes in groves, orchards or along woodland edges. Boxes for House Wrens and Bluebirds may be located in sunlit home landscapes. The Purple Martin house is mounted on a cat-proof pole in an exposed place away from shade.

Designs for bird houses are largely dependent upon the creative ability of the builder, however, the designs must follow a few elementary rules of construction. Primarily, a nest box is an attempt to imitate a natural home, and this objective should be the builder's guiding principle.

\*Figures A, B, C, D and table 1 taken from Farmers' Bulletin 1456, Homes For Birds, U. S. Department of Agriculture.

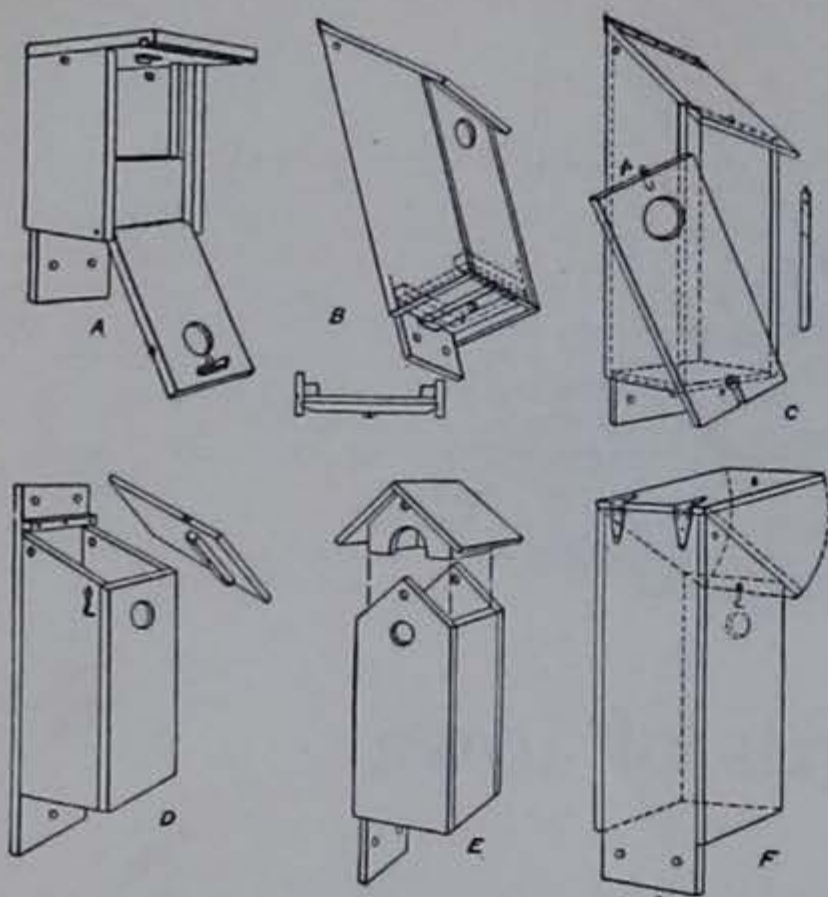


Fig. A. Accessible nest boxes. A, Hinged front held up by a catch; B, removable bottom, released by the slight turn of a cleat; C, swinging front, held in place by the pin p and by tightening the screw s; D and E, removable tops; F, hinged top.

Rough and weather-stained lumber is often more desirable in nest box construction than well-finished material. Metal is undesirable.

Color and finish are important in adapting nest boxes to surroundings. Natural or rustic effects may be obtained by using weather-stained lumber or veneering the exterior with waste bark. Paint of modest hues such as green, gray and brown may be used. White paint is desirable on houses exposed to the sun, for this color reflects heat.

Another general provision of nest boxes is protection from weather. The roof is water-proofed by giving it slope. The entrance should face away from the prevailing weather and be protected further by projection of the roof. Poor ventilation often causes the death of young birds. Holes cut just beneath the eaves permit change of air without drafts.

A clean nest box is more likely to attract tenants than one filled with nest trash and parasites of former occupants. A good nest box must be easy to clean. Removable roofs and sides as shown in fig. A greatly reduce the difficulty of ridding the boxes of last year's dirt. The box may be treated for the external parasites of birds by dusting the interior with derris or pyrethrum powder.

The colonial homes of Purple Martins are special features of bird home-life, designed to satisfy the social instinct of these birds. The builder may reach the climax of bird box design in martin house construction so long as the elementary provisions of proper ventilation, weather proofing and cleaning are made. Often elaborate boxes go untenanted for lack of respect for these provisions. Figures B, C and D offer working plans and instructions for a martin house. The pole shown in fig. D is suited to convenient cleaning. Martins like to bathe by swooping to touch the water while in full flight, hence, open ponds are attractive to them. One should not be disappointed if martins do not find newly furnished houses during the first season.

TABLE 1—DIMENSIONS OF NEST BOXES FOR VARIOUS SPECIES OF REGULAR BOX-INHABITING BIRDS AND THE HEIGHT AT WHICH THEY SHOULD BE PLACED ABOVE THE GROUND.

Species	Floor of cavity	Depth of cavity	Entrance above floor	Diameter of entrance	Height above ground
	INCHES	INCHES	INCHES	INCHES	FEET
Bluebird.....	5×5	8	6	1½	5-10
Robin.....	6×8	8	(*)	(*)	6-15
Black-capped Chickadee.....	4×4	8-10	6-8	1½	6-15
Tufted Titmouse.....	4×4	8-10	6-8	1½	6-15
White-breasted Nuthatch.....	4×4	8-10	6-8	1½	12-20
House Wren.....	4×4	6-8	1-6	1	6-10
Tree Swallow.....	5×5	6	1-5	1½	10-15
Purple Martin.....	6×6	6	1	2½	15-20
Flicker.....	7×7	16-18	14-16	2½	6-20
Red-headed Woodpecker.....	6×6	12-15	9-12	2	12-20
Downy Woodpecker.....	4×4	8-10	6-8	1½	6-20
Hairy Woodpecker.....	6×6	12-15	9-12	1½	12-20
Screech Owl.....	8×8	12-15	9-12	3	10-30
Sparrow Hawk.....	8×8	12-15	9-12	3	10-30

\*One or more sides open.



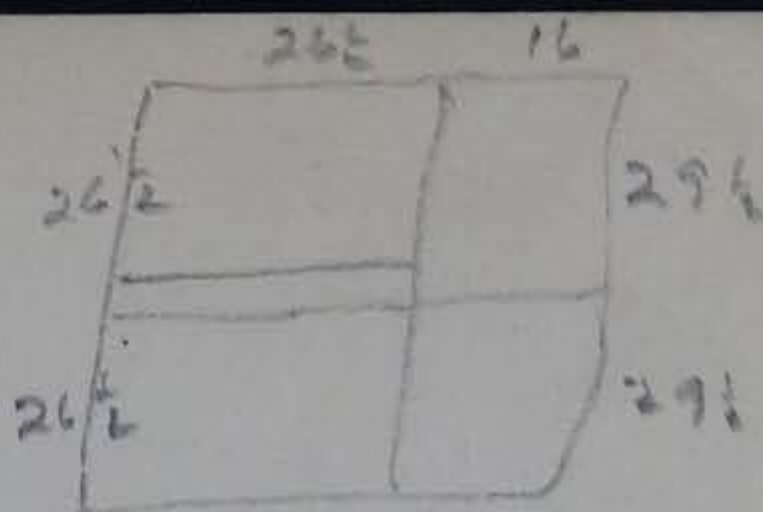
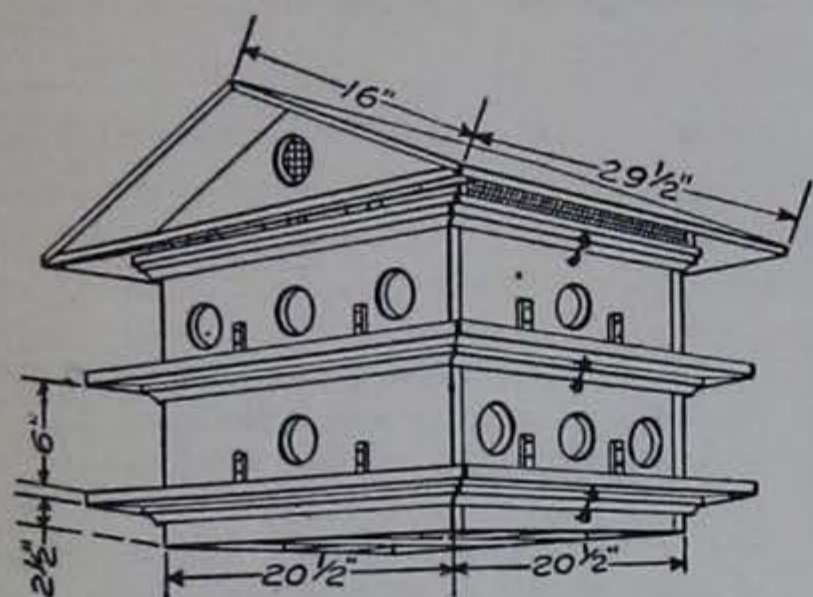


Fig. B. Martin house in which the foundation, roof and each story are built as units of uniform lateral dimensions, permitting the addition of more stories as the colony grows and allowing ready access for cleaning. A central air shaft and an elevated roof, permitting the passage of air beneath the eaves, assure a cool temperature for the interior. A cove molding around the underside of the roof and each story holds the parts in alignment, and pairs of hooks and screw eyes fasten the units together.

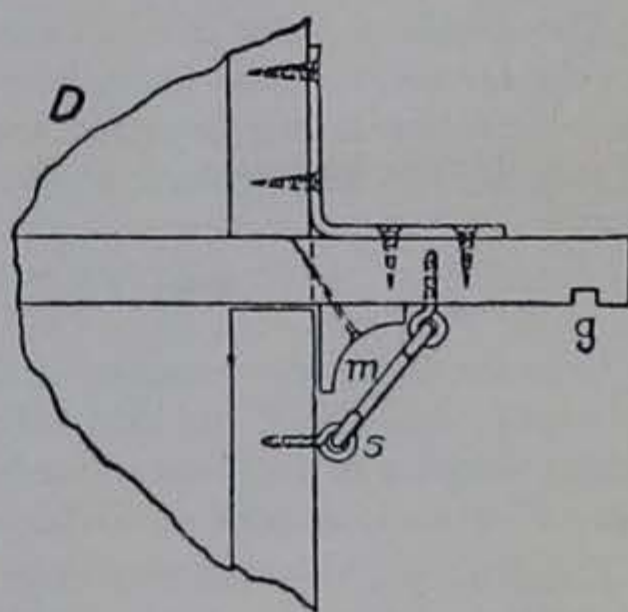
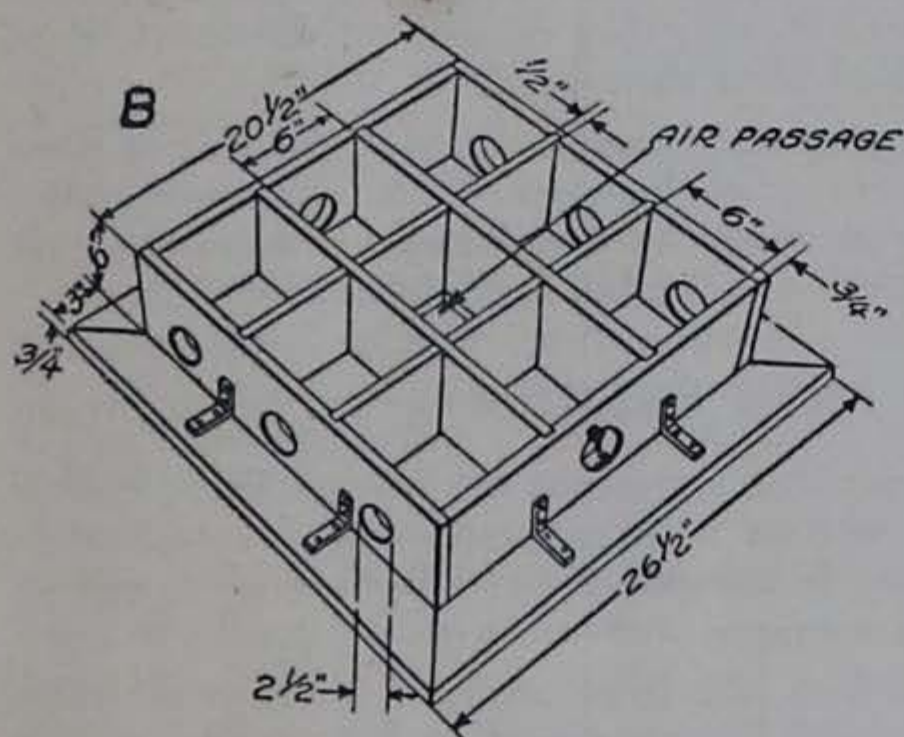
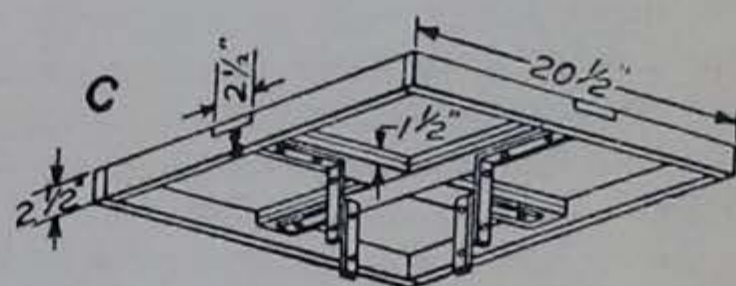
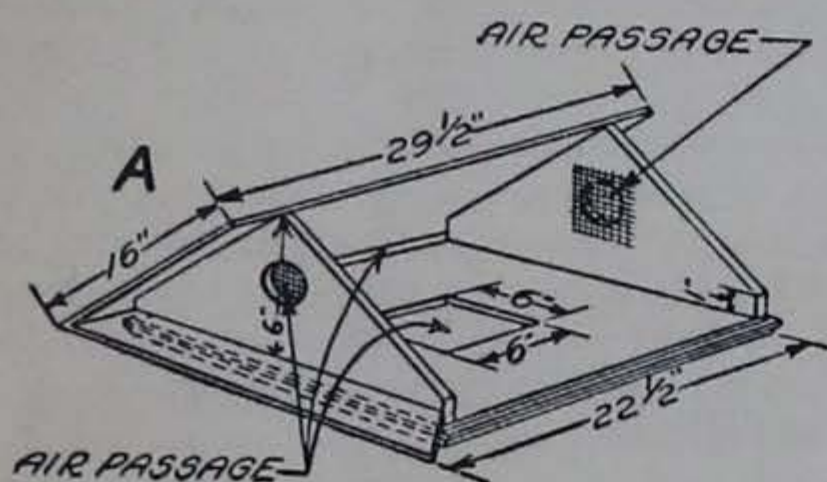


Fig. C. Details of the martin house shown in fig. B: A, Roof with one side removed to show central air shaft. Air also passes through a 1-inch slot under the eaves and through two screened holes in the ends. B, One of the stories. The chambers are 6 by 6 by 6 inches inside dimensions, and the bottom of the central chamber is cut out. C, Foundation, in which the central cross is built up of double thicknesses of three-fourths-inch oak and the rest of the frame is of three-fourths-inch pine. Four heavy angle irons fasten this to the supporting pole. D, Detail of the porch when attached with angle irons; the molding *m* fits about the top of the lower story; the screw eyes and hooks *s* fasten the units together, and the groove *g* is made to prevent water from draining inward.

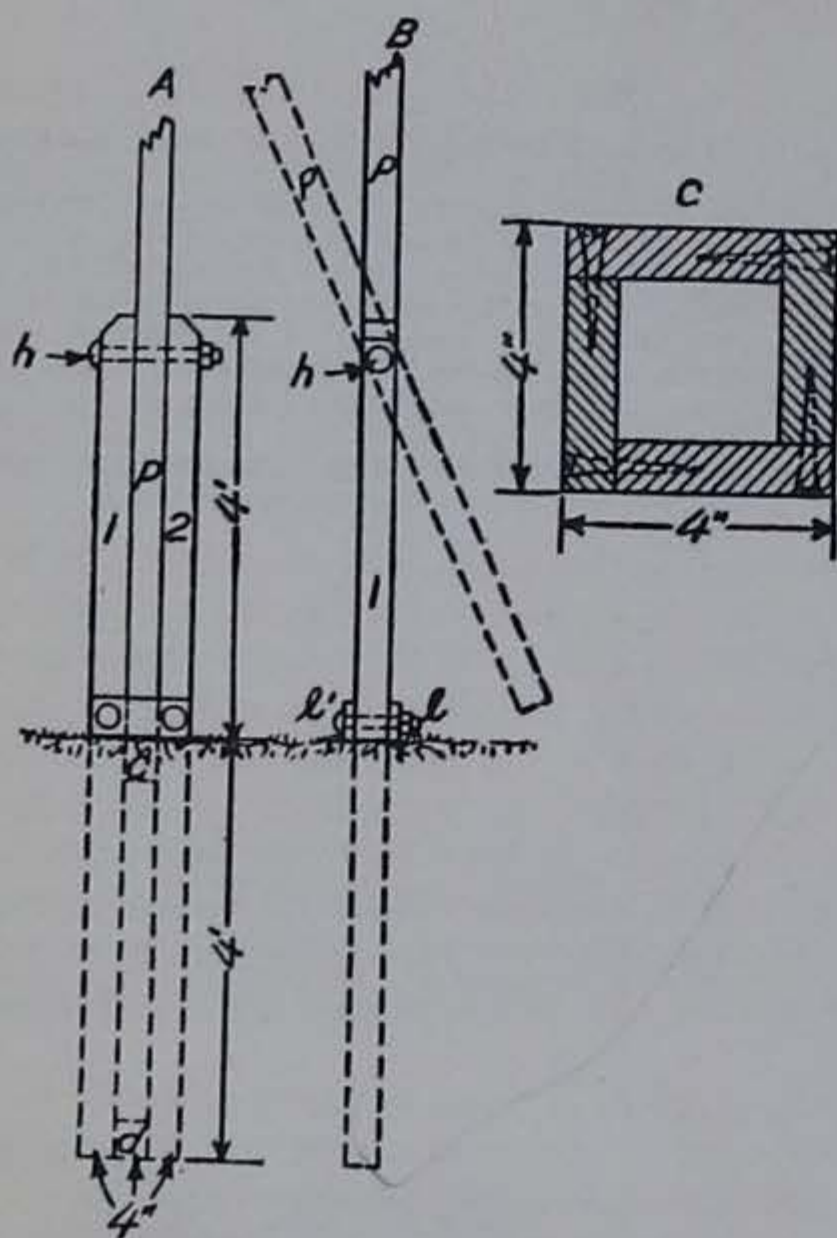


Fig. D. Martin-house pole. A and B, The supports (1 and 2) are 8 feet long and 4 inches square. They are held in alignment by the 4-inch blocks c and d and are buried 4 feet in the ground. A heavy bolt or section of pipe (h) serves as a hinge, and the base of the pole is held in position by the two hardwood blocks or iron plates (l and l') bolted together. C, Cross-section of pole built of seven-eighths-inch hardwood. In case of large houses the pole and supporting post should be 6 inches in outside diameter.

## BIRD BATHS

A supply of water for birds about the home is an added attraction for bird life. Like bird houses, bird baths may be of various forms. All serve their purpose equally well if a few elementary needs are considered. Baths which are placed upon the ground should not be surrounded with flowers and shrubs; they conceal cat enemies. Added protection is attained by mounting the bath on a short pole.

The depth of water in the bath is important. Small birds should be able to stand upon the bottom and still keep their feathers out of the water. If the water level cannot be satisfactorily lowered, correction may be made by covering the bottom with sand and gravel. The bath should always be located in the full rays of the sun.

## PROTECTION FROM ENEMIES

Cats are the worst enemies of the birds that nest about our homes. Because stray cats appear and break up bird families without warning, preparation in anticipation of their coming is the best remedy. Nest boxes should be suspended by a wire or mounted on an iron pipe or wooden pole equipped with a tin collar.

English Sparrows and Starlings sometimes take boxes intended for more desirable birds. Their nests may be hurriedly removed from boxes which are easily available for cleaning. Martin houses should be tightly closed to keep bird pests out when the rightful owners are not there. Additional information concerning the control of these pests may be obtained free from the Office of Information, U. S. Department of Agriculture, Washington, D. C. Write for Farmers' Bulletin No. 1571, "The European Starling in the United States" and for Leaflet 61, "English Sparrow Control." An occasional "bad" squirrel may destroy nests and hence need special attention. The State Conservation Officer for the district should be notified when control of squirrels appears necessary.

## BIRD ADAPTATIONS

Structure in bird groups differs greatly. These differences result from the adjustment of the bird's body to the necessities of life. Most noticeable is the modification of the parts which have to do with movement and feeding.

### FEATHERS

Feathers are a most distinguishing characteristic of birds. They mark birds as a group of animals separate from all others. Feathers make movement through the air possible. They protect the bird body from heat and cold. Their color and arrangement provide the beauty of birds.

The first feathers are true down. True down is the feathers seen on birds at the time of hatching. They are in the form of soft thread-like plumes arising from a common base. Birds that are helpless at birth have less down than those that begin to run about as soon as they hatch. The principal parts of an adult feather are the quill, the shaft and the barbs. The quill is the part that is imbedded in the skin, and the shaft is the stem of the feather. The barbs are thread-like projections on the sides of the shaft. Feathers known as "flight feathers," such as are seen in the wings and tail, have the barbs in the form of vanes or blades on either side of the shaft. These blades are formed of barbs that are interlocked by small hooked projections. Fluffy feathers have soft hookless barbs. The outer covering keeps out the wet and cold, and the fluffy down feathers underneath keep the body warm.

The plumage of birds changes during the year. All birds undergo a complete molt or change in plumage after the nesting activities are over, and many of them make another change later in the winter before the mating season. Land birds lose the old feathers and grow new ones gradually, but the aquatic birds are left flightless by the loss of all the flight feathers at once. Another change in the appearance of plumage may be produced by wear. That is, colored feather tips, such as are seen in the Starling's plumage, may wear off and leave the bird in solid color.

Feathers provide the bird with beauty. Shades of red, brown and yellow pigment may be present, but the most beautiful colors come from the reflection of light into its rainbow parts by small ridges on the feathers.

### FEET AND LEGS

The feet and legs of birds are primarily adapted for use in movement, perching and fighting. Aquatic birds have feet adjusted to life in the water. Ducks and geese have webbed feet (plate I, fig. 2) and short powerful legs for swimming and diving. Wading birds have long legs and necks. Herons, patient shallow water fishermen, are equipped with long legs (plate I, fig. 1). The comb-like teeth of the claw (plate I, fig. 1a) on this bird's middle toe are difficult to explain. All of the heron's toes are on the same level so that the bird may perch. Shore birds also have long legs for wading in shallow water, but they are not given to perching, hence, the hind toe is elevated or lacking.

Hawks and owls have strong toes furnished with sharp, curved claws (plate I, figs. 3 and 4). These claws are used to catch and hold prey. The Blue Jay sometimes uses its feet like hands in which to hold nuts while "hatching" them open. The woodpecker's feet (plate I, fig. 5) are especially adapted to climbing.

Some bird feet have taken on peculiar shapes for no apparent reason. Two of the toes on the cuckoo's foot are directed forward and two are directed backward (plate I, fig. 7). Two of the kingfisher's toes (plate I, fig. 6) are grown together for half their length. The foot of the horned lark bears an unusually long claw on the hind toe (plate I, fig. 8). A woodpecker which visits Iowa occasionally during the winter has but three toes.

Horny projections grow out on the toes of the Ruffed Grouse during the winter. These enable the bird to walk about on the deep snow more easily.

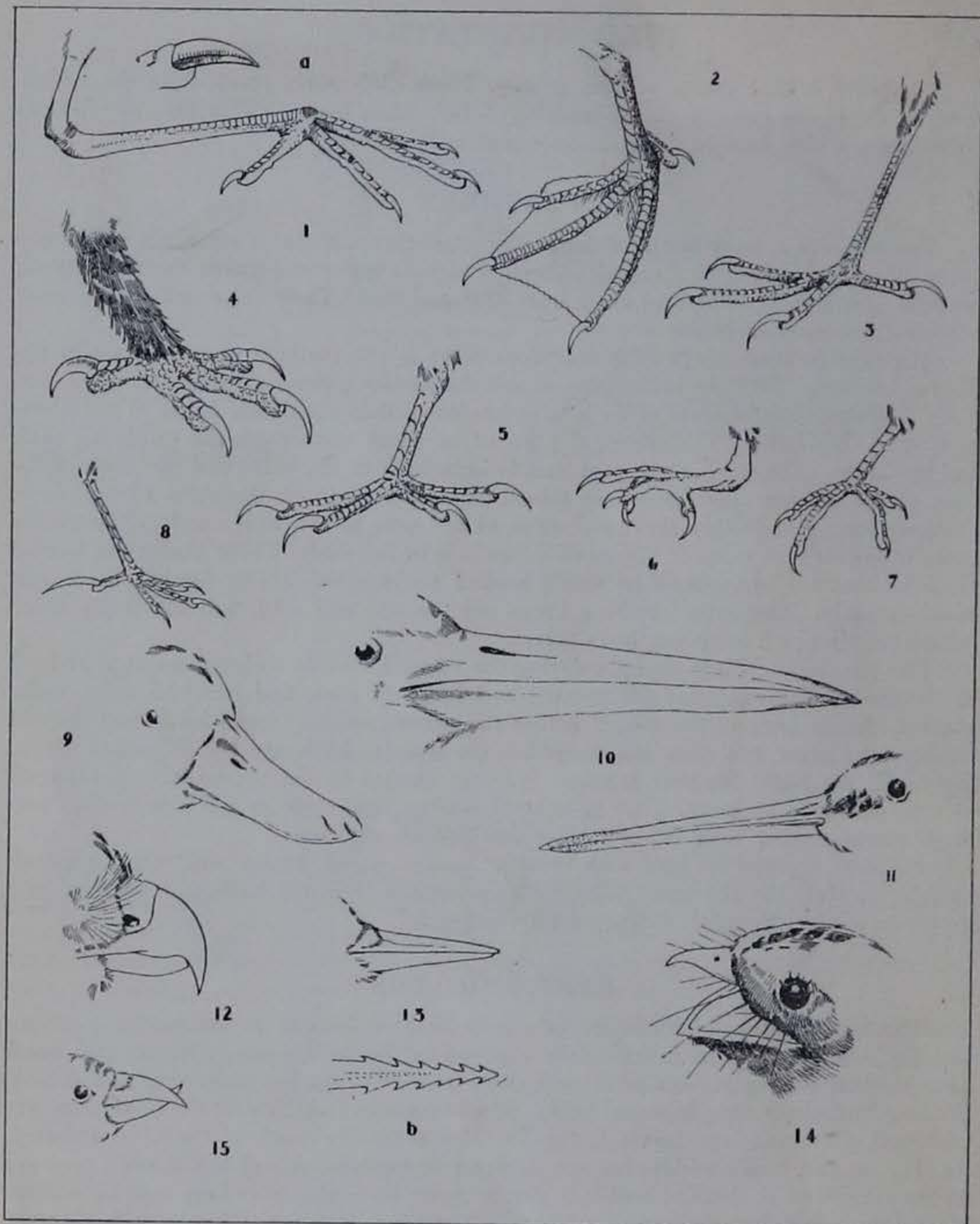


PLATE I

BILLS

Bird bills have taken on various shapes suited to their respective food habits. Herons, bitterns and other birds that eat many fish have long, sharp-edged bills (plate I, fig. 10) for spearing. The large spoon-like bill of the duck (plate I, fig. 9) is equipped with comb-like teeth on the inside edges for straining wet food. Birds such as the Wilson Snipe have long, slender, sensitive bills (plate I, fig. 11) suited to probing in mud for food.

Flesh-eating birds, such as hawks and owls, have powerful bills with knife-like edges (plate I, fig. 12). The upper part of the bill is down-curved and hooked. The lower part shears into the upper part behind the sharp hook. Such bills are used for biting and tearing flesh from victims.

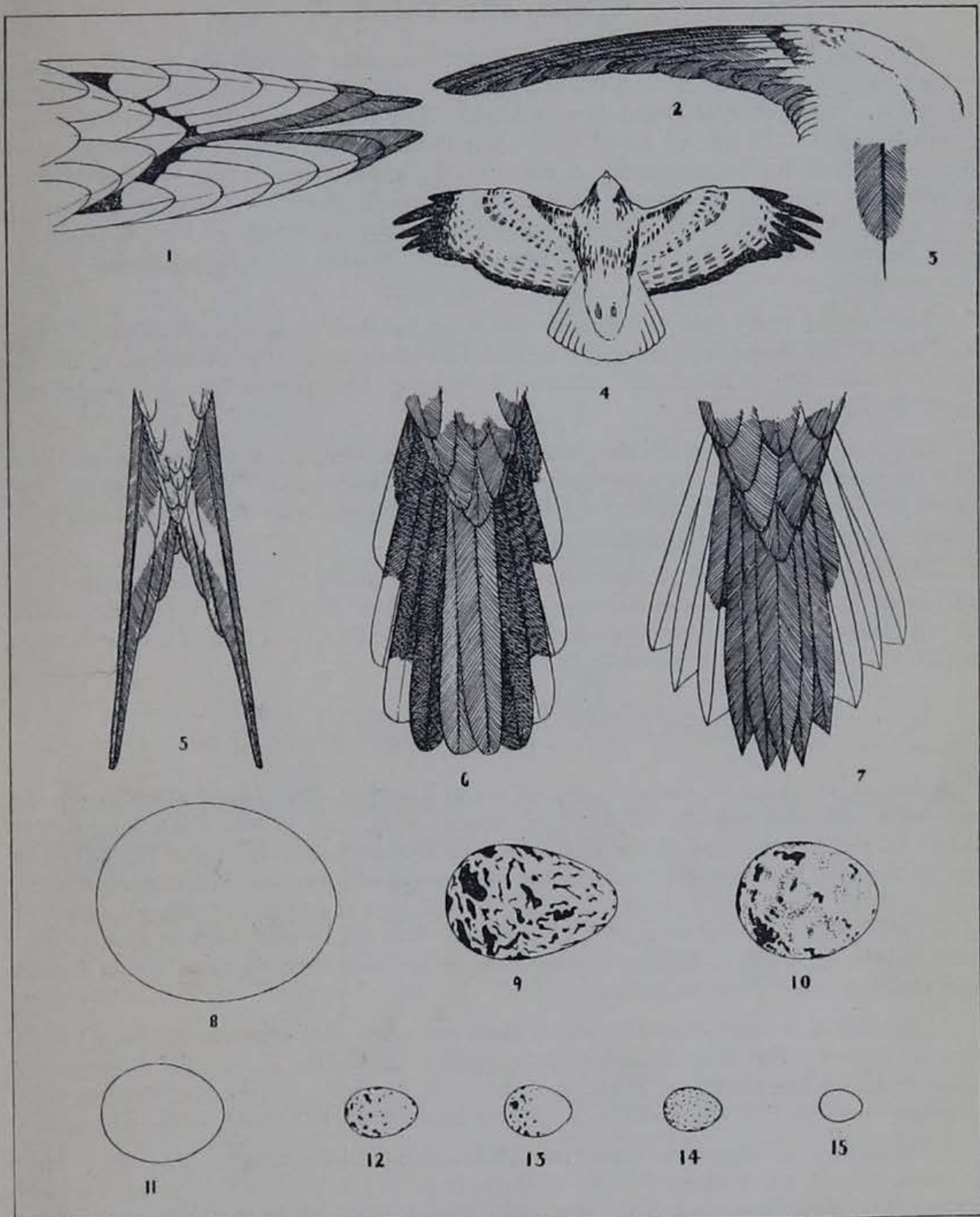


PLATE II

The woodpeckers have straight chisel-like bills (plate I, fig. 13) for drilling into wood after boring insects. The tongue (plate I, fig. 13b) is barbed and pointed for spearing the soft-bodied borers and dragging them from their tunnels.

The sparrows, finches and grosbeaks have cone-shaped bills which are formed for eating seeds. Another seed-eater, the crossbill, has an unusual bill (plate I, fig. 15). It is thought that this bill is adapted to picking seeds from pine cones.

The Nighthawk has a small bill (plate I, fig. 14) that appears to be rather useless. As the open mouth of this bird is very large, insects may be taken from the air in full flight.

## WINGS AND TAILS

The wings and tail are primarily used for movement through the air. The wings furnish the propelling force, and the tail serves as the rudder. Long and narrow wings are characteristic of graceful and swift flight. Swallows and swifts have such wings (plate II, fig. 2). Short and broad wings, like those of the sparrows and woodpeckers, are not formed for long periods in the air. A "roller-coaster" type of flight often accompanies wings of this shape. Bob-whites have still shorter wings in proportion to body size. These small wings are pumped so rapidly that a thunderous buzz is produced when they are flushed. The broad wings and tail of soaring birds (plate II, fig. 4) are characteristic.

Tails are of many sizes and shapes. Some are pointed, such as those of the Mourning Dove (plate II, fig. 1); some are forked, like those of the Barn Swallow (plate II, fig. 5); some are rounded and others are square. The cuckoo has a rounded tail (plate II, fig. 6).

Climbing birds frequently use their tails as props. The tips of the feathers of these tails are usually pointed, such as that of the Hairy Woodpecker (plate II, fig. 7). The tips of the feathers in the Chimney Swift's tail are equipped with sharp spines (plate II, fig. 3) for assistance in clinging to smooth surfaces.

Movement of the tail is characteristic of some birds. The Phoebe has the tell-tale habit of jerking its tail nervously while perched. The House Wren may carry its tail either up or down at right angles to the body. The Song Sparrow may be seen to pump its tail up and down while in full flight.

## EGGS

Bird eggs appear in various sizes, colors and shapes. The size of the egg usually compares well with the size of the bird. Compare the egg of the Great-horned Owl (plate II, fig. 8) with that of the Ruby-throated Hummingbird (plate II, fig. 15). The size of the egg, however, does not always correspond with the size of the parent birds. This is nicely illustrated by comparison of the Killdeer egg (plate II, fig. 9) with that of the Mourning Dove (plate II, fig. 11). Young birds which run about as soon as they are hatched, such as the Killdeer, come from larger eggs than do those which remain helpless in the nest for a long time.

One end of an egg is usually larger than the other. All eggs are rounded but in various degrees. The Barn Swallow has a slender egg (plate II, fig. 12) whereas the Sparrow Hawk has an almost round egg (plate II, fig. 10). Some eggs have the sides so nearly straight that they take on a conical appearance like those of the Killdeer.

The colors of eggs are attractive. Hole-nesting birds usually lay white eggs, however, this is not a characteristic of these birds alone, for such birds as the Bob-white, Mourning Dove and Ruby-throated Hummingbird also lay white eggs. Some eggs are plain blue, like those of the Robin and Catbird. Eggs covered with fine spots, like those of the House Wren (plate II, fig. 14), are said to be "speckled." Similar but larger markings are referred to as "spots," and eggs thickly covered with large irregular spots are said to be "blotched." The markings may be especially thick at the large end of the egg, such as those of the Chipping Sparrow (plate II, fig. 13).

It is unlawful to collect eggs and good conservation not to touch them, hence, the wise bird student will be content to observe the eggs from a point near the nest. Disturbed eggs are frequently deserted.

The length of time required for eggs to hatch varies with different birds. Small birds usually hatch their young more rapidly than do large ones. A hummingbird requires about 14 days to hatch its eggs, whereas the turkey must sit on its eggs at least 28 days before the young appear.

COLOR DESCRIPTION:

Bill greenish black above and on sides, yellowish below; eye yellow; bare space in front of eye yellow; forehead, top of head, back of neck, rump and tail greenish black; cheeks back of eye, side of neck, sides of breast above, reddish brown; chin and throat white; middle of breast white above, streaked with black to grayish brown below; back slate-gray iridescent with green and purple; sides olive-gray; wings green; feet and legs orange. Female similar except feet are greenish yellow. Length 17 to 19 inches.



$\frac{1}{8}$  natural size

## Green Heron

Late in April the Green Heron comes to find its summer home along the margins of our wooded streams and ponds. It is alert and shy. When startled by an observer, the heron stands erect, raises its shaggy crest, nervously flicks its tail and finally, springing into the air, with an explosive whistle, flies a safe distance up the stream. Because of this habit it is popularly called "fly-up-the-creek." In flight and from a distance this bird resembles a crow, but its wing beats are more deliberate and arched.

Unlike its heron relatives, this bird usually does not nest in colonies. The smaller trees and bushes provide resting places for the carelessly constructed platforms of sticks which form the nests. Three to six pale blue eggs are laid.

The young hatch about 17 days after the last egg appears. They remain in the nest for some time, feeding upon partially digested food brought to them by the parents. This food consists of small animals which are to be found in and around the streams and ponds. With the aid of their feet, wings and necks the young are able to scramble about among the twigs and branches surrounding the nest. It may surprise you to see one of these scrawny youngsters fall into the stream or pond and swim off like a veteran.



**COLOR DESCRIPTION:**

Bill yellow; forehead and top of head dark brown; bare space in front of eye greenish yellow; eye yellow; side of head back of eye brownish yellow; chin and throat white with a central strip of brown; side of neck black; back of neck brownish yellow; back and rump grayish brown, mottled with black; sides and breast white, streaked with darkly edged bars of light brown; wings brown, mottled and spotted with buff and black; tail olive-brown, streaked with black; belly brownish buff; feet and legs yellow-green. Female similar. Length 25 to 28 inches.

$\frac{1}{9}$  natural size

## American Bittern

“Oong-ka-choonk — oong-ka-choonk.” Early in the spring, sometimes before the last thaw, this unbirdlike “pumping” song may be heard coming from the marshes and sloughs, marking the arrival of the American Bittern. “Thunder-pumper,” “stake-driver” and “bull-of-the-bog” are some of the names given this bittern because of its unmusical love song.

Marshes and large wet meadows are preferred as nesting sites. Platforms of grasses, weeds and rushes are constructed upon the ground for nests. The nest usually contains three to five greenish buff eggs, but occasionally six or seven are found. The young birds hatch about 28 days after the last egg has been laid. For 2 weeks or more the young remain in the nest to be fed partially digested food from the parents’ bills.

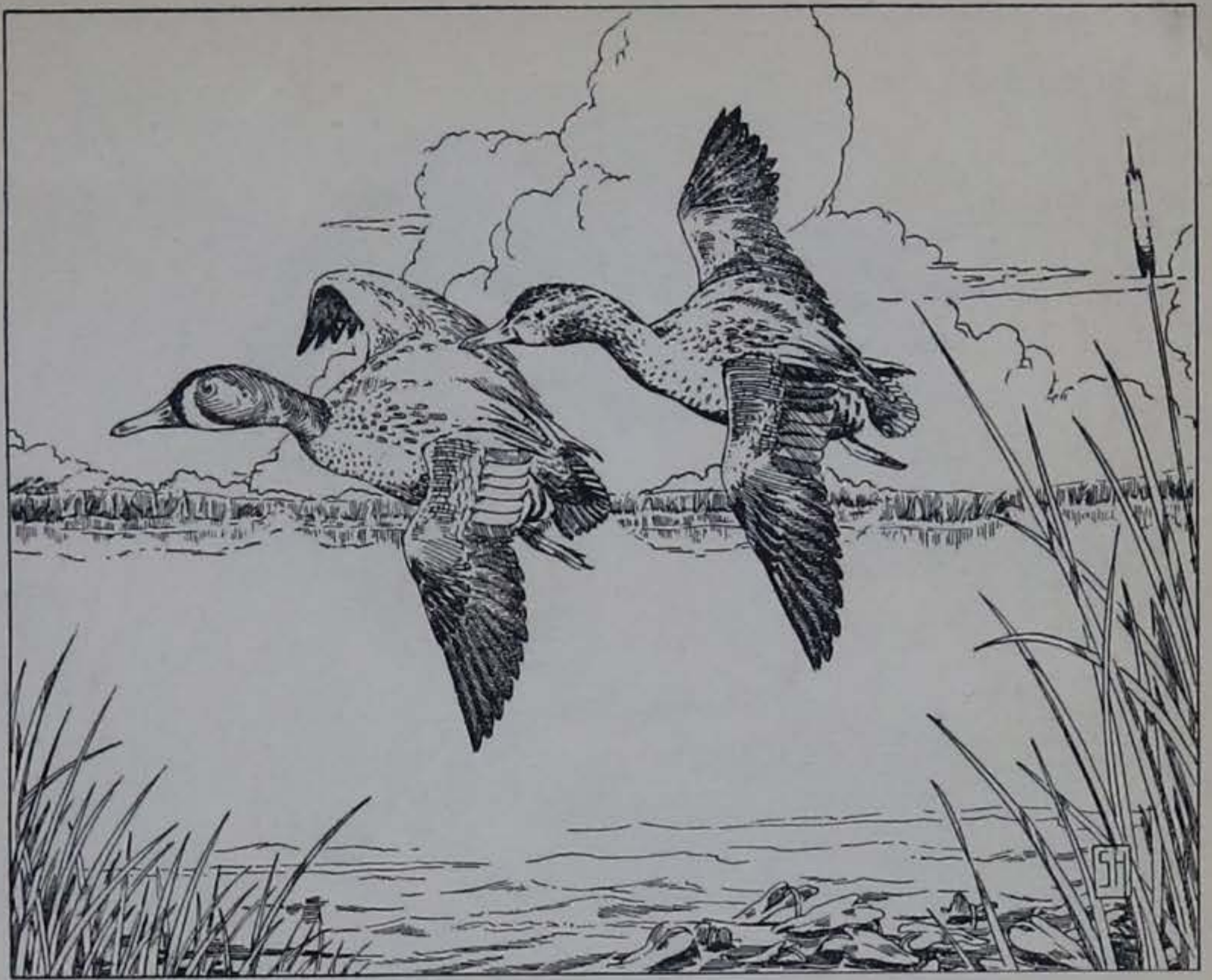
This bird is an expert at hiding in the vegetation of the marsh. It stalks quietly and stealthily among the plant stems in search of food. When startled it may stand motionless with the neck and head pointed skyward and, with the bright yellow eyes tilted forward, appear to stare in a cross-eyed manner.

The smaller animals of the marshes serve to satisfy the appetite of this bird. Crayfish, snakes, mice, lizards, frogs, small fishes, dragon flies and grasshoppers are some of the most common creatures taken for food.



COLOR DESCRIPTION:

Bill bluish black; eye brown; forehead, top of head and chin black; vertical crescent before eye white; cheeks, back of eye, sides of neck and back of neck slate-gray with a purplish iridescence; throat dark brown with some white mottling; breast mottled with black, gray and buff; forepart of back blackish brown margined and centrally marked with buff; lower back and rump olive-brown, marked with buff; sides gray, mottled with dusky; wings dark brown with a light blue patch at the wing bend separated from a dark green patch lower down by a narrow bar of white; patch of pure white at each side of base of tail; belly grayish brown; legs and feet orange-yellow. Female duller throughout, lacking head markings and white patches at base of tail. Length 15 to 16 inches.



$\frac{1}{8}$  natural size

## Blue-Winged Teal

Each spring this neat little duck with the distinctive head and tail markings arrives in Iowa as a rear guard to earlier duck flights. At that time teal may be seen on almost any pond. After mating many of them move to more permanent marshes and small lakes and remain for the summer as our most numerous nesting duck.

The nests may be found on the ground of the meadows close to water. They are made chiefly of grasses to which much down is added. Eight to twelve white or buffy white eggs are laid. The ducklings appear in about 21 to 23 days.

About one-third of the food that these little ducks pick up as they dabble about in the water is composed of mollusks, insects and larvae, worms, tadpoles and other small animals. The vegetable food is taken from the soft parts of sedges, pondweeds, wild rice and other aquatic plants. After the harvest season they may be seen gathering waste grain in the fields.

Unlike most birds, the female blue-wing has more vocal ability than the male. She quacks in an accomplished manner, although not so loudly as some of her close relatives. The male can do no more than give out a soft "peet-peet-peet," usually while in flight.



**COLOR DESCRIPTION:**

Bill black; eye yellow; head, neck, chin, throat, back, wings and tail largely bluish gray; back of head may be streaked with rusty red; rump white; tail barred with blackish brown and bluish gray; breast white, spotted above with rusty red; sides white, spotted with rusty red; belly white; underside of wings white, with black tips; feet and legs yellow. Female chiefly dark brown or rusty brown above, yellowish brown beneath. Length 19½ to 24 inches.

1/10 natural size

## Marsh Hawk

Although the Marsh Hawk may be seen in Iowa throughout the year, it becomes most numerous during the warmer seasons. These hawks may be seen flying low over the open fields, meadows and marshes. The conspicuous white rump helps to identify them, and they weave back and forth alternately flapping and setting their long narrow wings. In this manner they hunt out many mice, frogs, snakes and other small animals for food. These feeding habits have given this hawk a reputation of being largely beneficial.

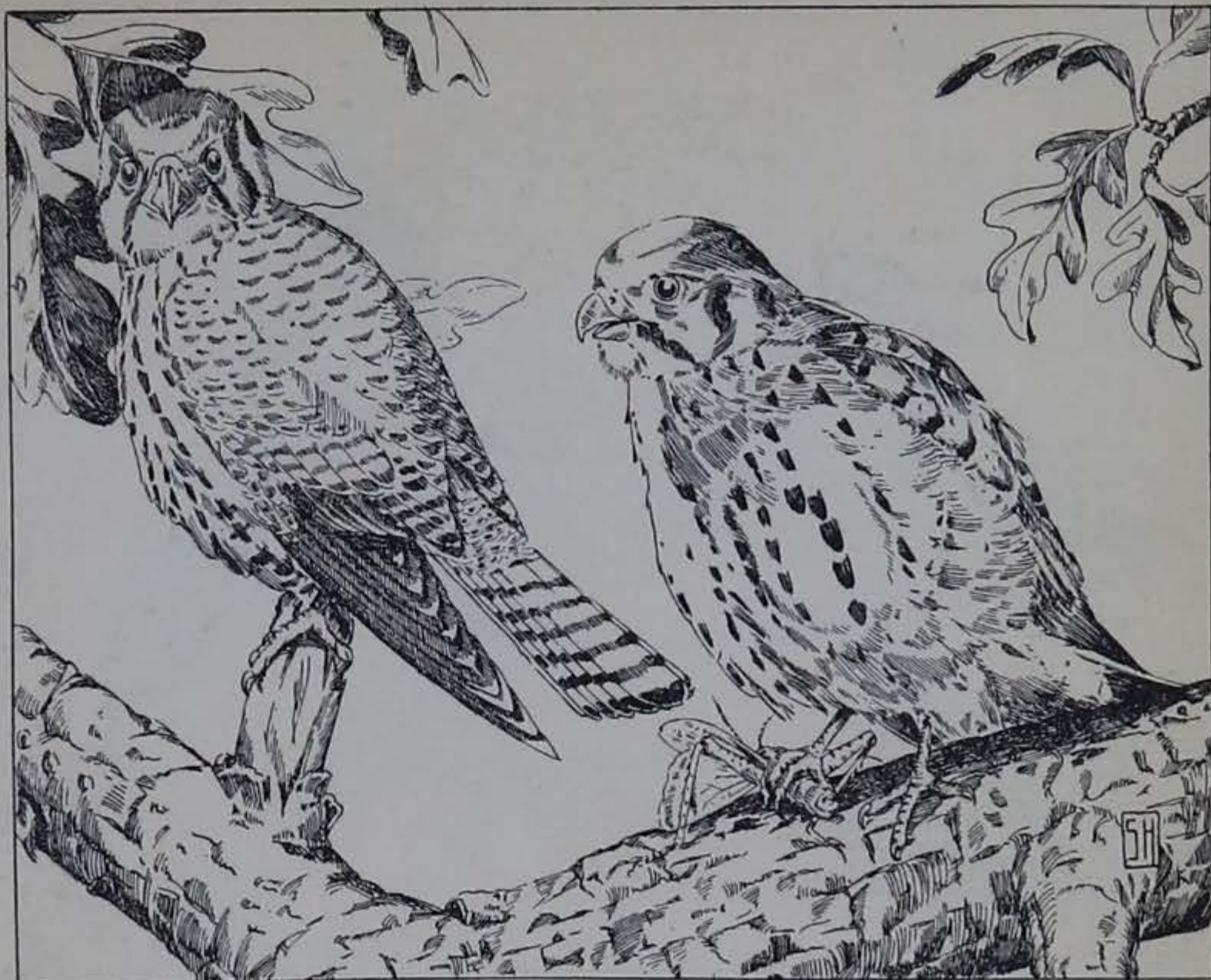
Not unlike other animals the Marsh Hawk puts on a show for the female during courtship. At great heights he tumbles and somersaults in exhibition of his cleverness.

The male and female both work at building the nest of grass and weeds on a dry platform in the marsh or in the grasses of the meadow. A shallow cup is made to hold the bluish or greenish white eggs. The eggs may be marked and spotted with brown. Three to six eggs are generally laid, but as many as eight have been found. The male frequently helps the female during the 21 to 28 days required to incubate the eggs.

The male has a peculiar method of bringing food to the female while she is on the nest. Carrying the food, he circles in above the nest and calls to the female. She takes to wing and skillfully catches the food from the male while in full flight.

COLOR DESCRIPTION:

Bill bluish black; eye brown; top of head slate gray with a central patch of rusty brown; cheeks white with one vertical black bar beneath the eye and another a short distance back of the eye; forehead, chin and throat white; sides of neck pale rusty red; back of neck rusty red with a central black patch and another at each side; breast buffy white sometimes streaked with black; back rusty red, barred with black; rump rusty red; sides buff, spotted coarsely with black; large wing feathers chiefly black; remainder of wing bluish gray with black spots; tail mostly rusty-red, tipped with a broad black bar near the end and edged at sides and tip with white; belly buffy white; feet and legs yellow. Female similar but duller and more heavily barred. Length  $8\frac{3}{4}$  to 12 inches.



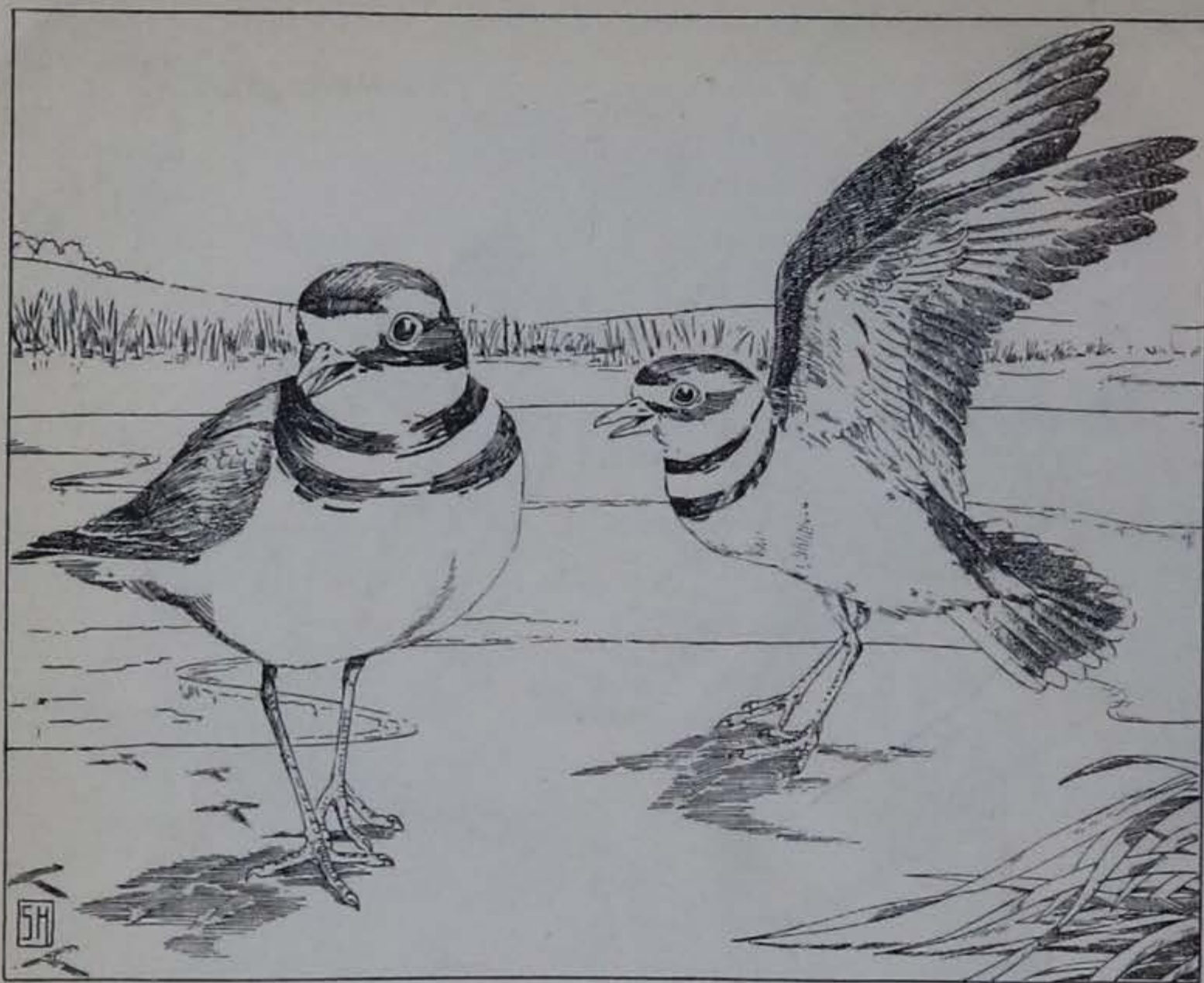
$\frac{1}{4}$  natural size

## Sparrow Hawk

This handsome little falcon is the smallest hawk in North America. Its reddish tail will serve to distinguish it from all other small hawks.

The Sparrow Hawk remains in Iowa throughout the year, hunting and perching in the more open places. It has been given the name "grasshopper hawk" by some because of its great appetite for those insects. Grasshoppers, crickets, beetles and caterpillars make up over one-half of its food. The remainder of its fare is largely mice and spiders. Foods such as these give the economic importance of this bird a beneficial rating in respect to agriculture.

Tree cavities, especially abandoned flicker homes, are given an early inspection as likely nest places. Chips and shavings left by the last tenant complete the furnishings of the nest. Four to seven pale blue eggs heavily marked and blotched with brown and lavender are laid. The male is not above taking his turn at sitting upon the eggs during the period of incubation. The young remain in the nest for about 3 weeks and are fed by the adults for some time after leaving the nest.



**COLOR DESCRIPTION:**  
 Bill black; top of head brownish gray; forehead and bar above, below and behind eye, white; cheek brown; eye brown; chin and upper neck white-banded all around; lower neck black-banded, broad in front and narrow behind; white crescent on upper breast, bordered below by an equally wide black bar; back brownish gray to buff and rusty red over the rump; lower breast and belly white; wings brownish gray, large feathers tinged with rusty red and tipped with black; middle tail feathers blackish; outside tail feathers tinged with rusty red, black barred near tip and tipped with white; feet and legs yellow. Female similar. Length 9 to 10½ inches.

⅓ natural size

## Killdeer

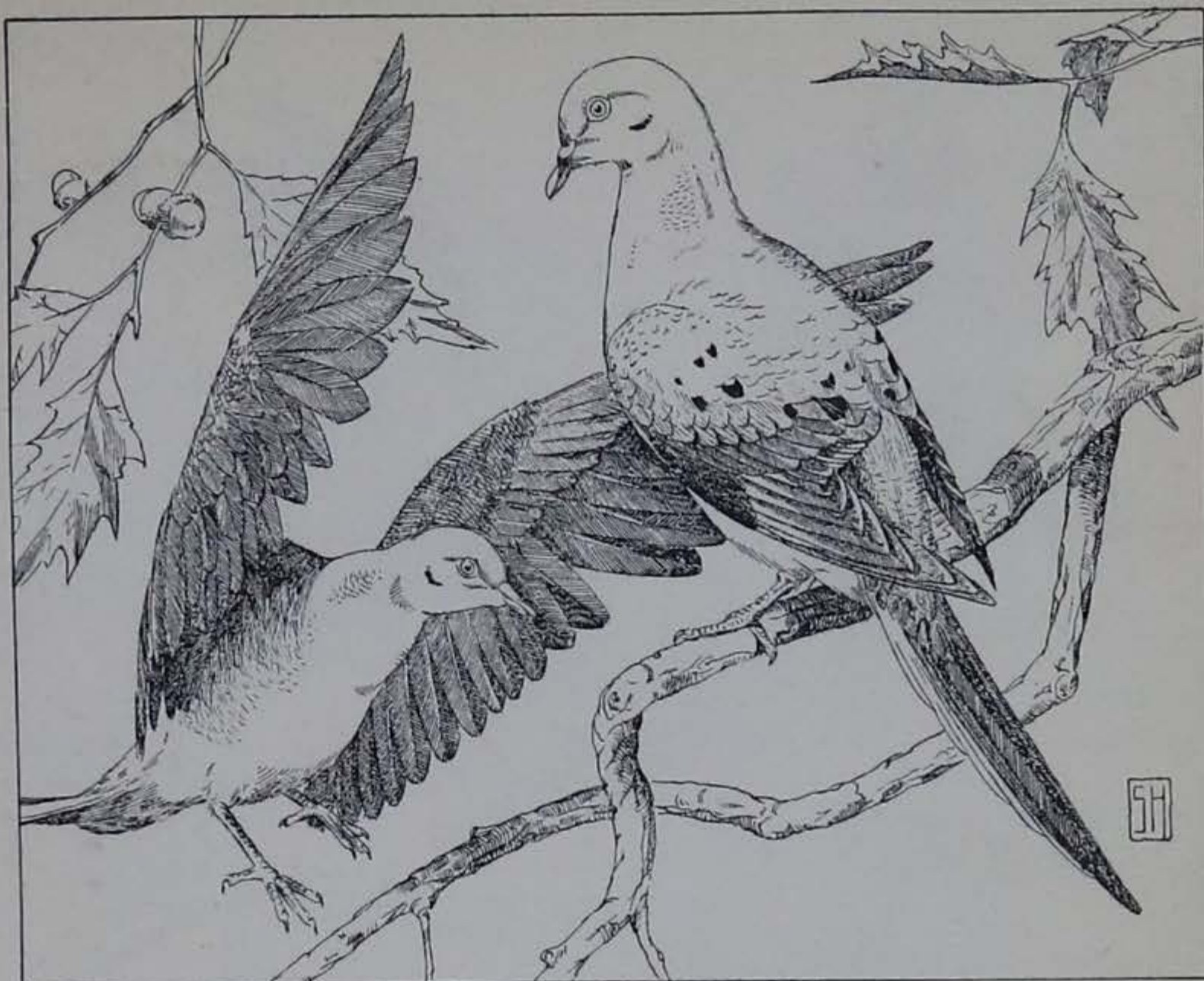
The Killdeer is among the earliest of spring arrivals, often suffering the discomfort of a late snow. After such a snow during the severe winter of 1935-36 many of these birds were seen warming their feet in the melted areas above the heating tunnels on the Iowa State College campus. The loud ringing call, "kill-dee, kill-dee, kill-dee," assures us that the bird is very much alive and that the suffering is not very acute.

Nesting activities begin with the warm days of April. The nest is merely a hollow in the ground which may or may not be lined with grass and bits of weeds. After the habit of other shore birds, the four eggs are laid with the sharp ends pointing into the center of the nest. The eggs are creamy colored with much speckling of brown and lavender. The downy young are hatched in 26 to 28 days. These comical little fellows are colored much like the adults and are able to pick a living for themselves from the very first.

The Killdeer feeds largely on insects and earthworms. Grasshoppers, spiders, snails, weevils, white grubs, wireworms, cutworms, cattle ticks and houseflies are some of the better known pests which make up a part of its diet. This bird is without doubt beneficial.

**COLOR DESCRIPTION:**

Bill black; top of head and back of neck bluish gray; forehead and broad stripe over eye buff; eye dark brown, surrounded by a pale blue ring; cheek buff with small dark spot below; chin and throat light buff; sides of neck buff with purple iridescence; back of neck and back grayish brown; rump and middle tail feathers bluish gray; outer tail feathers gray with black bar near end and broad white tip; breast buff with purplish tinge; sides buff; wings bluish brown to bluish gray with several black spots; belly buff; feet and legs red. Female duller. Length 11 to 13 inches.



$\frac{1}{8}$  natural size

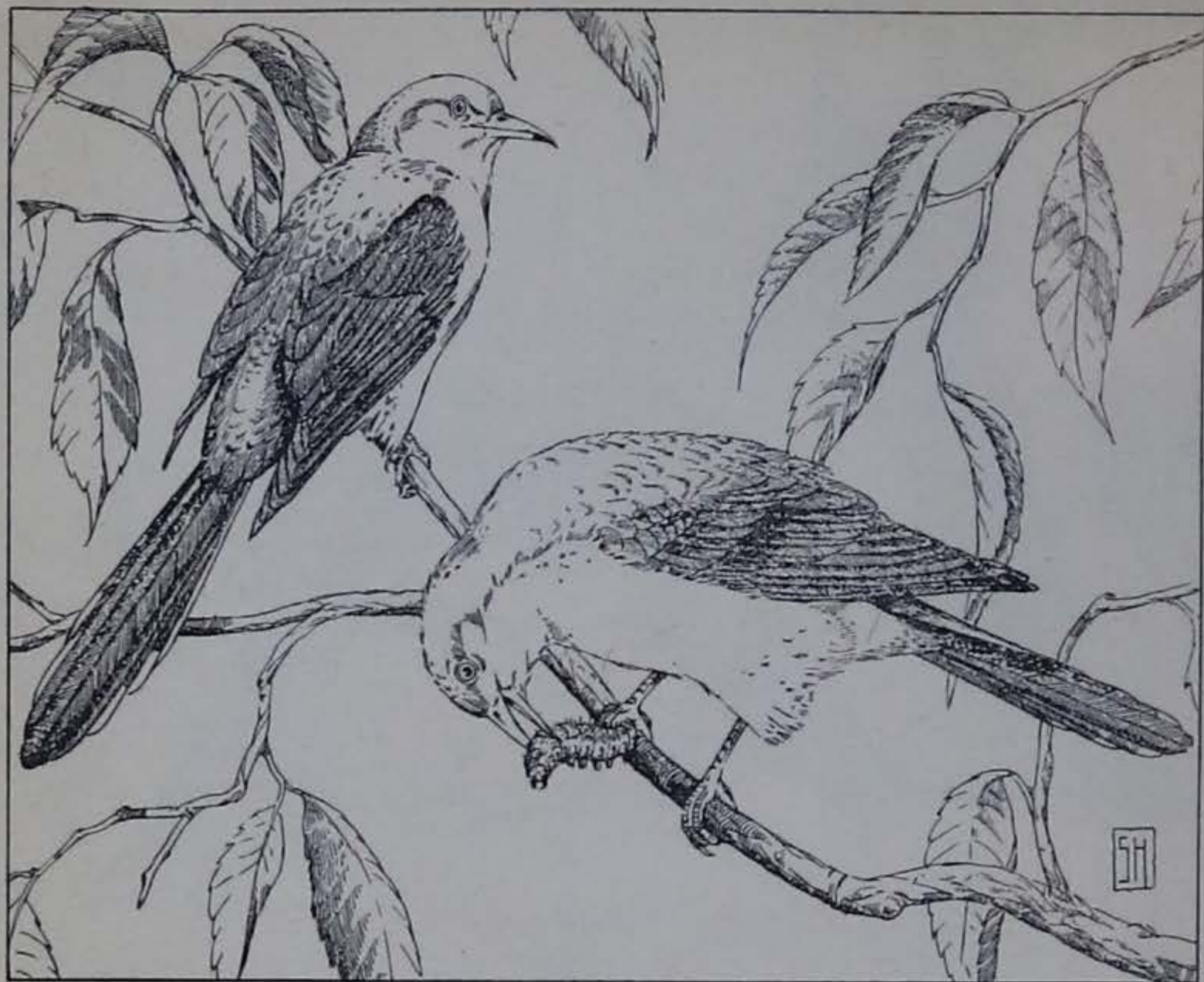
## Mourning Dove

These "summer visitors" arrive in Iowa by the first of April. Very often the mournful "coo-coo-coo" of the male bird is the first announcement of their arrival. These sad notes justify a part of this dove's name.

Nesting activities are begun almost as soon as the birds arrive in the spring. The nest is a loosely constructed platform of twigs, often so thin that the small white eggs may be seen from beneath. Occasional use may be made of nests which other birds have abandoned. Nesting sites are selected at random, but protective evergreen thickets seem to be preferred for the first brood. The young squabs hatch in 12 to 14 days and are fed in the nest for a similar period of time. They are fed special food from the bills of the adults. This whitish material is popularly known as "pigeon's milk."

The dove is a strict vegetarian, feeding almost without exception upon vegetable matter. Agriculturists are pleased to learn that about 64 percent of the diet is composed of weed seeds. After the harvest season enough waste grain is gathered from the operations to account for an additional 32 percent of the dove's food.

Although most of the Mourning Doves have gone south by November, a few more reluctant individuals remain until driven out by the severe cold of winter.



¼ natural size

**COLOR DESCRIPTION:**

Bill black above, edged with yellow and completely yellow below; forehead, cheek, top of head, back of neck, back and rump brownish gray; eye brown; chin, throat, side of neck, breast, sides and belly white; wings brownish gray with a reddish tinge at base of large feathers; tail brownish gray on middle feathers; outer tail feathers black, edged and broadly tipped with white; feet and legs bluish gray. Female similar. Length 11 to 12¾ inches.

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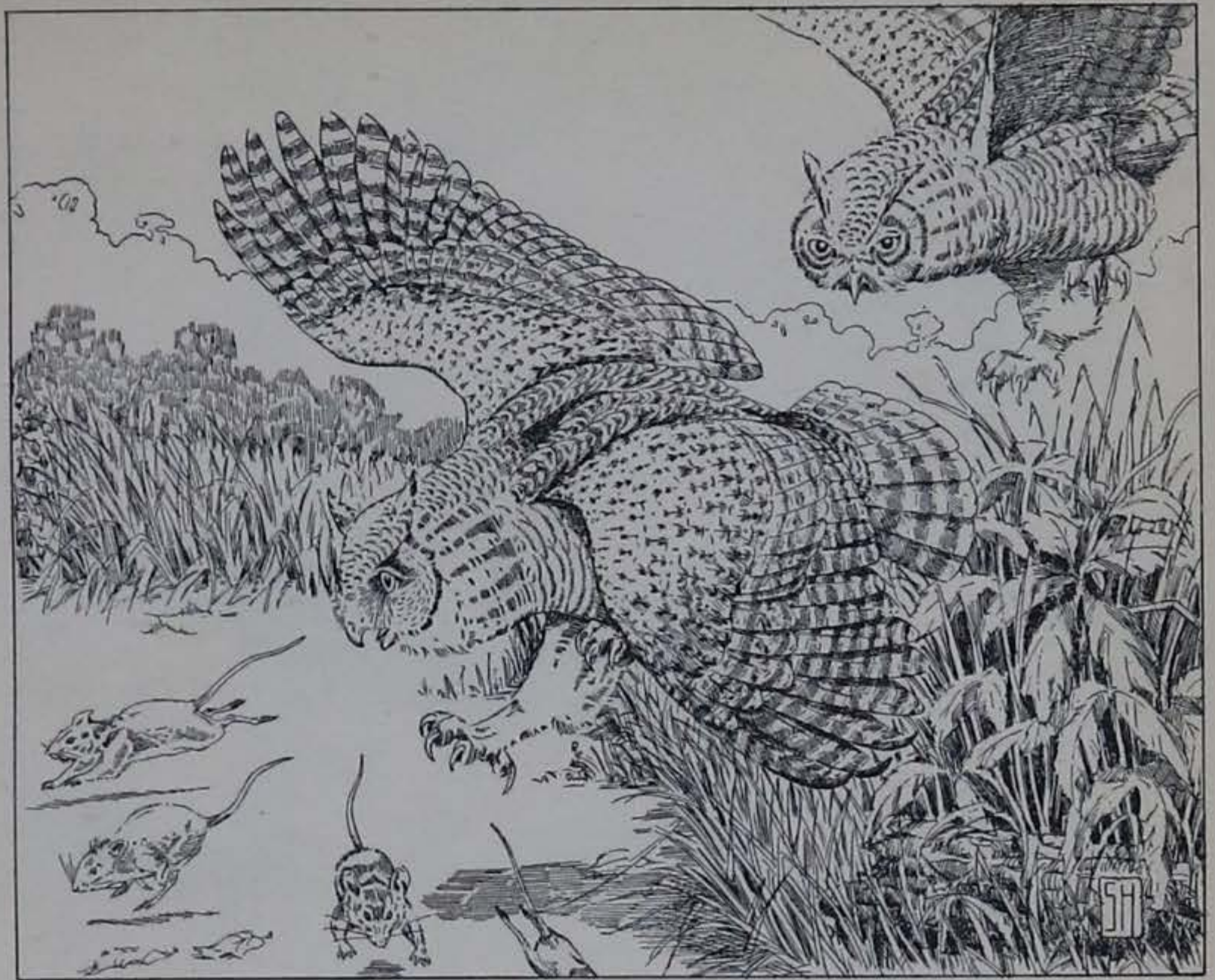
The Black-billed Cuckoo is similar except that the bill is entirely black and the edge of the eyelid red; the upper part of wings more rusty brown and white tips of tail feathers narrower.

## Yellow-Billed Cuckoo

The yellow lower part of the bill and the additional white on the underside of the tail distinguish this bird from its near relative, the Black-billed Cuckoo. Both of these birds are among the more common summer guests of our orchards and woodlands. They are often referred to as "rain crows" because their characteristic songs are supposed to foretell rain.

The cuckoo carries on its nesting activities in a rather haphazard manner. The nest is nothing more than a crude platform of twigs in a low tree or thicket. Two greenish eggs are usually laid, but as many as eight have been found. A few cuckoo eggs have been found in nests of other birds. Young in various stages of development may be found in the nest with the eggs.

An unusual appetite for hairy caterpillars gives the cuckoo a definite economic rating in the eyes of foresters and fruit growers. The destructive tent caterpillar and the fall webworm are especially relished. After feeding upon caterpillars for some time, the hairs sticking in the lining of the stomach become so numerous that digestion is difficult. The cuckoo restores its digestive ability by shedding the stomach lining.



**COLOR DESCRIPTION:**

General color variable; bill slate-black; eye yellow; typical dark phase speckled and barred with black, brown and gray, brighter beneath; chin, lower throat and eyebrows white; face rusty red, edged with black; ear tufts black; feet and legs brownish gray. Female similar. Length 20 to 22 inches.

$\frac{1}{10}$  natural size

# Great Horned Owl

"Too-hoot, too-hoot, too-who." The Great Horned Owl's eerie call comes out of the dusky timber justifying the popular name of "hoot owl." This bird is Iowa's largest owl with ear-tufts and remains in the state throughout the year.

Although this powerful and ferocious hunter can see well in the daytime it prefers to feed at night. Rats, mice, gophers, rabbits, fish, birds and insects are most numerous among its victims. Crows and blackbirds form a part of this bird's menu, especially when they may be caught during night raids upon their rookeries. This big owl is so strong and savage that it does not hesitate to attack skunks or even turkeys. Poultry which has been left out during the night is frequently taken.

The blizzards and severe cold of February do not prevent the beginning of nesting activities. This bird does not build a nest, but makes use of abandoned nests of hawks and crows or hollow trees. A few feathers from its own body are the only additions which the owl makes to the nest. The same nest is often used year after year. Two rough white eggs are usually laid, and they may be expected to hatch in about 28 days. Because of the intense cold that is often experienced during the incubation period the parent must not leave the nest long or the eggs will freeze. The more fortunate parents will nest in the protection of a hollow tree.



¼ natural size

**COLOR DESCRIPTION:**

Bill black; eye dark brown; head black with buff mottling; back and sides of neck black and buff streaked; throat white; back, sides, rump and breast black with buff mottling; wings brownish black; white bar across larger wing feathers; tail brownish black, white bars to either side near tip, tip black; belly black with white bars; feet and legs grayish brown. Female similar but duller and without the white tail bars. Length 8¼ to 10 inches.

## Nighthawk

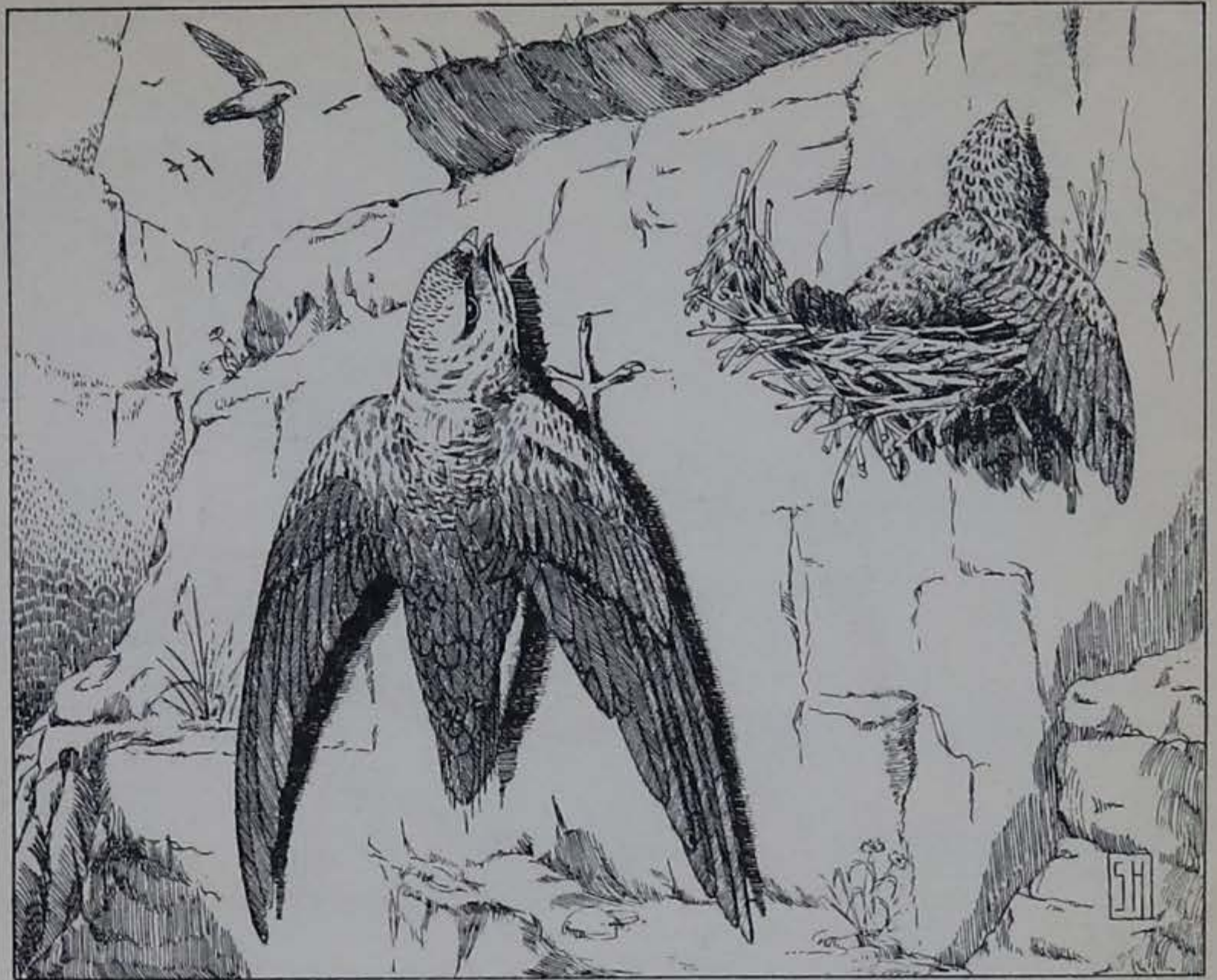
The Nighthawk is the slim-winged bird seen during the evenings from May to October catching insects in full flight. Short harsh screams are given out as the bird circles in the air. During the mating season a surprising "boom" may be heard at the conclusion of each headlong plunge toward the earth. From this arises the common name of "bull-bat." The nighthawk is not a hawk, as its name would lead us to believe, but is really one of the goatsuckers.

The bird has an enormous mouth tipped with a tiny bill. This mouth serves as an effective dragnet for May beetles, grasshoppers, mosquitoes, flies, moths, flying ants, weevils, potato beetles, squash bugs and cucumber beetles.

The eggs are laid upon the bare ground in open places and often upon gravel roof tops. Usually two eggs are laid. They are dull white in ground color, speckled and spotted with gray and light brown.

"Nighthawk days" is a popular name given the period during which these birds migrate southward. Large numbers of the birds are seen in the air slowly circling towards the south, catching insects as they go.





**COLOR DESCRIPTION:**

Bill black; eye dark brown; head, back of neck, wings and stubby tail sooty black; chin and throat grayish white; back olive-brown to grayish brown over the rump; side of neck, breast and belly grayish brown; feet and legs brownish black. Female similar. Length  $4\frac{3}{4}$  to  $5\frac{1}{2}$  inches.

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

## Chimney Swift

From an unknown winter home the swifts travel north to nest during the summer. They arrive in Iowa during April and some of them remain for the summer.

The swifts are swallow-like in appearance and habit, but they are not swallows. The slender powerful wings carry the small cigar-shaped bodies with great ease and grace. They are rarely seen at rest except as they cling to the interior of a chimney or hollow tree. The stubby fan-shaped tail is tipped with needle-sharp spines so that it makes an effective prop.

Homes for the swifts have increased since man added his buildings and chimneys to the primitive hollow tree nesting sites. The nest of twigs is fastened to the walls of the accepted home by a sticky saliva. The twigs are torn from trees while the birds are in full flight. One or two of the four to five glossy white eggs may be laid in the nest before it has been completed. The male and female take turns on the nest during the 18 days of incubation.

A close relative of the swift is found in China. That bird builds a nest entirely of saliva and thus arises the celebrated edible nest.

In September great flocks of swifts may be seen swirling about a large chimney or hollow tree. They leave soon after the chill of fall has taken their only food, the insects, from the air.



**COLOR DESCRIPTION:**

Bill black; forehead, top of head, side of neck, back of neck, back, rump and middle tail feathers brassy green; side of head black around and back of eye, except for very small white spot behind and above eye; eye dark brown; chin and throat ruby-red; breast and belly grayish white to dull gray; sides light green; wings purplish brown above; rest of tail purplish black; feet and legs black. Female: Head, back and rump duller green; underneath grayish; wings dark brown; two middle tail feathers brassy green, the rest brassy green at the base with a broad black bar near the tip and white tips on the three outside feathers of each side. Length  $3\frac{1}{4}$  to  $3\frac{3}{4}$  inches.

$\frac{5}{8}$  natural size

# Ruby-Throated Hummingbird

The hummingbird is the smallest bird to visit Iowa. It arrives in May and departs for the south sometime in September. The "hum" of the hummingbird is produced by the rapid beating of the tiny wings.

The hummingbird is so agile in flight that it has no effective bird enemies. On the other hand it has been known to attack crows, hawks and even eagles with favorable results. The sharp, slender bill makes a dangerous weapon when driven by the powerful little wings.

The food of this bird is composed of nectar and tiny insects taken from flowers. Tubular flowers, particularly red ones, such as the trumpet creeper, caragana, bee balm, columbine, tiger lily, and nasturtium, are especially attractive to these little birds.

The male plays and rests while the female handles the business of building a nest and rearing the young. She makes a small cup-like nest which is lined with plant down and sided with bark scales and lichens. The nest is placed saddle-like upon some branch. Two white eggs the size of small beans are laid. The young hatch out in about 14 days.

COLOR DESCRIPTION:

Bill black; eye dark brown; top of head, cheek, forehead, back of neck, back and rump grayish blue; small spot in front of eye, chin, throat and collar around neck white; breast grayish blue above, white below; belly white; sides bluish gray; wings bluish gray, finely spotted with white; larger wing feathers black, often white-tipped; tail grayish blue, white-tipped and narrowly white-banded; feet and legs bluish gray. Female similar except for brown band across lower edge of breast and on sides. Length 11 to 14 $\frac{3}{4}$  inches.



$\frac{1}{6}$  natural size

## Belted Kingfisher

The loud rattling cry of the Belted Kingfisher may be heard along the streams and ponds of Iowa shortly after the ice goes out in the spring.

You may see this shaggy-crowned fisherman resting motionless upon a snag above a favorite pool. Without warning he dives into the water to reappear instantly with a small fish wriggling in his sharply edged bill. If startled he will fly to another perch with a characteristic series of three or four flaps and a glide. At the same time his rattling cry may be given in spite of the mouthful of fish. The captive fish is beaten upon the perch and then swallowed head foremost. The majority of fish that are caught appear to be minnows. Crayfish, beetles, crickets, frogs and small snakes are also taken.

The kingfisher prefers to live alone except during the mating season. Then he and his mate dig a home in some stream bank. The tunnel is about 4 inches in diameter and 4 to 5 feet in length. The nest is nothing more than a few pieces of grass or leaves in a small compartment at the end of the tunnel. From 7 to 10 pure white eggs are laid sometime in May. The young birds hatch out in 16 days and remain in their damp dark home about 4 weeks.



**COLOR DESCRIPTION:**

Bill black; forehead and top of head bluish gray, red crescent behind; cheek buff with black "mustache" below eye; eye brown; chin, throat and side of neck buff; black crescent on upper breast; lower breast and belly brownish gray, spotted with black; underneath wings golden yellow; underneath tail golden yellow except black bars at end of feathers; back of neck bluish gray; back and upper wing feathers brown barred with black; lower wing feathers dark brown with golden yellow shafts; rump white; upper part of tail barred white and black, remainder of tail black with mostly golden yellow feather shafts; feet and legs bluish gray. Female similar but lacks black "mustache." Length 12 to 12¾ inches.

1/6 natural size

## Flicker

A few Flickers have been known to remain in Iowa throughout the year. Most of them go south, however, for the winter and return in the spring with the robins. These birds are also known as "high-holers" and "yellow-hammers."

Like other woodpeckers the Flicker cuts a home in a dead tree stub, fence post or pole. The entrance is about 2½ inches in diameter. Four to nine eggs are laid, and as with most hole-nesting birds they are pure white. The naked and wrinkled baby flickers appear in 11 to 16 days after the last egg has been laid.

The Flicker spends much time feeding on the ground, where its chief interest is ants. Over 50 percent of its food is composed of these insects. This bird's tongue is about three times as long as the head and hence very useful in probing in the ant runways. The tongue is equipped with barbs and coated with a sticky saliva to aid in holding the ant captives. Professor Beal of the U. S. Biological Survey reported 5000 ants in one Flicker stomach. Chinch bugs, grasshoppers, scale insects and some berries and seeds are also taken. The food habits of Flickers are beneficial.

COLOR DESCRIPTION:

Bill bluish grey; head and neck red; eye brown; back black; rump white; upper part of tail white, remainder of tail black with white tips and outer edges on outer feathers white; wings black, cut by a wide white bar; breast, sides and belly white; feet and legs greenish gray. Female similar except for thin black bar between the red of the throat and white of breast, white of the wing somewhat mottled with black. Young: Grayish brown on head, neck, back and underneath; white on rump and middle part of wing; remainder of wings black; tail brownish. Length  $9\frac{1}{4}$  to  $9\frac{3}{4}$  inches.



$\frac{1}{3}$  natural size

## Red-headed Woodpecker

The Red-headed Woodpecker is well-known in Iowa. This is largely because it prefers the open country and scattered timber typical of farming lands.

Many of these "scarlet-tops" are killed upon the highways, but in spite of this they are maintaining their numbers. The little cavities in the concrete offer fine cups to hold beetles until they are killed, and while thus occupied with their food many red-heads are run down by passing cars.

Beetles form the principal food of this woodpecker. Ants, bees, wasps and grasshoppers may be added. Many of these insects are picked up on the ground or taken from the bark of trees, but the red-head can catch them in full flight just as well.

The homes are hewn in dead or living trees, fence posts and telephone poles. Four to six white eggs are laid in the pocket-like cavity. The gray-headed youngsters hatch out of the eggs in about 14 days.

A few more courageous red-heads may remain through the milder winters to feed upon our offerings of suet, but most of them pass to the south of Iowa for the coldest part of the year.



$\frac{2}{7}$  natural size

**COLOR DESCRIPTION:**

Bill black; eye brown; top of head black with obscured central patch of red; cheeks and forehead black; chin, throat and belly white; sides and breast grayish white; side of neck, back of neck, back and rump slate-gray; wings black with feathers narrowly white-margined; tail black, broadly tipped with white; feet and legs grayish black. Female similar. Length 8 to 9 inches.

# Kingbird

The Kingbird is one of our most common roadside birds. Early in May small groups and pairs of them seem to appear as if by magic, resting upon the wires and posts as if they had been there all winter.

The Kingbird is one of the tyrant flycatchers, and tyrants they are to the hawks and crows. With little encouragement and much success they will attack and drive away even the strongest of hawks. These little warriors should make desirable watch dogs for the farm yard.

The nests are found in many places but most frequently upon the more horizontal limbs of trees. The nest itself is a bulky affair of weed stems, coarse grasses and sheep's wool lined with fine grasses and hair. Three to five white eggs spotted and blotched with brown and lilac are laid. The young Kingbirds appear in 12 to 16 days.

About 85 percent of the Kingbird's food is insects. It is thought that these birds catch many bees, hence, they are often called "bee martins" or "bee birds." A U. S. Biological Survey report shows that they take but few bees and then mostly useless drones. Most of the insects are taken in full flight as the bird is an expert in the air. Berries and a few seeds also are eaten.



**COLOR DESCRIPTION:**

Bill black; top of head, cheek, forehead, sides of neck and back of neck blackish brown; eye brown; chin light gray; throat white; breast and sides slate-gray; belly gray; sometimes tinged with yellowish; back and rump grayish olive; wings and tail brownish black; feet and legs black. Female similar. Length  $6\frac{1}{4}$  to  $7\frac{1}{4}$  inches.

$\frac{1}{8}$  natural size

# Phoebe

As first arrivals, the dull-garbed Phoebes accompany the Robins, Bluebirds and Killdeers on their northward trip in early spring. The Phoebe leaves no secrets about its identity as it vigorously calls "phoe-be, phoe-be."

"Bridge-bird" is a name sometimes given the Phoebe. This is because one of its favorite nesting places is under bridges. Nests also are found in buildings, under over-hanging banks and upon the rock ledges of cliffs. The nest is constructed from a mixture of mud and moss with an interior lining of fine grasses. Three to six pure white eggs are laid. The young birds hatch about 16 days after the last egg is laid. Some say that the Phoebe parents raise two families each summer.

The Phoebe selects a fence wire or dead snag as a lookout post near the nesting site. Here this little flycatcher perches most of the day and night, nervously flicking its tail. Like a little pursuit plane the Phoebe shoots into the air wheeling and darting after a passing insect. "Snap" and our little friend returns to its perch with a wasp. Wasps and wild bees make up much of the Phoebe's diet. Beetles, grasshoppers, flying ants, flies and bugs are taken also. About 10 percent of the Phoebe's diet is of vegetable matter, largely berries and seeds.



**COLOR DESCRIPTION:**

Bill bluish black above, yellow below; eye brown; chin and throat white or yellowish white; remainder of head, sides and back of neck, breast, back, rump and sides, slate-gray; wings brownish black with margins of inner feathers white and two wing bars grayish white; tail grayish brown; belly white or pale yellow; feet and legs brownish black. Female similar. Length 6 to 6¾ inches.

¾ natural size

## Wood Pewee

The Wood Pewee shows no haste in its journey northward, arriving with the warblers in the middle of May. This flycatcher's counterpart, the Phoebe, has been present for weeks. The two birds are similar in color, but the pewee has two white wing-bars and does not flick its tail while perching.

The plaintive song of the pewee may be heard day and night in the oak and hickory woodlands. "Pee-o-wee" comes the mournful, slowly given whistle, and after a little pause this is followed by a pitiful "pee-wee." At once we know that the little bird hiding in the shadows is a Wood Pewee and not a Phoebe.

The pewee's nest is found astride the fork of a horizontal limb in the dense timber. It is made of grasses, moss and rootlets with shingles of lichen decorating the outside. The three to four creamy white eggs bear a wreath of brownish spots on the large end. The young birds hatch in 12 days.

On a perch among the leafless twigs of a dead branch the pewee patiently awaits the coming of food in the form of insects. These are flies, wasps and wild bees, with a few bugs and beetles. They are gathered in flycatcher fashion. Some berries and seeds are also taken.





**COLOR DESCRIPTION:**

Bill black; eye dark brown; top of head, forehead, and cheeks blackish brown; chin and throat white, fading to brownish gray on sides of neck; brownish gray bar over upper breast; sides white, tinged with brownish; remainder of breast and belly white; back of neck, back and rump brownish gray; wing and tail blackish brown; feet and legs dark brown. Female similar. Length  $4\frac{3}{4}$  to 6 inches.

$\frac{1}{3}$  natural size

## Bank Swallow

Late in April the Bank Swallows arrive from their South American homes. They settle down in little colonies wherever suitable nesting places may be found.

Creek banks near exposed sand bars seem to be the favored summer homes of these swallows. Such man-made offerings as road cuts, gravel pits and quarries are also accepted. The habit of nesting in banks has given this bird a part of its name.

These swallows dig tunnels into the banks just under the sod rootlets. The endless tracking in and out soon flattens the bottom of the little tunnels. Some of the holes may be as much as 3 feet long. There may be an elaborate nest of grass, straw and feathers at the end of the tunnel, or the eggs may be laid upon the bare ground. There are four to seven white eggs, and the young hatch in about 14 days.

Like other swallows, these birds take their food in full flight. Frequently they may be seen swooping and climbing from side to side over some body of water, combing the air for insects. Flies, beetles, damsel flies, wasps, dragon flies, wild bees, flying ants and bugs are among the insects taken. In the evening they may be seen dipping into the water at the end of a dive for a bath and a drink. In late August the swallows begin to congregate for their trip southward sometime in September.



**COLOR DESCRIPTION:**

*Bill black; forehead brownish red; eye brown; top of head, cheek, back of neck, back and rump bluish black; chin and throat brownish red with a bluish black line almost completely edging throat below; breast, sides and belly buff; wings black; deeply forked tail black with a patch of white near each feather tip; legs and feet brown. Female similar. Length 6 to 7½ inches.*

½ natural size

## Barn Swallow

Each spring the farmer welcomes the added color which the Barn Swallows bring to the barnyard. Nowadays this swallow is one of the most common birds seen about the prairie farm.

The cultivated prairie with its many barns and other buildings has provided better nesting places for the Barn Swallow than did the old prairie. Hollow trees, caves and bridges are used to a lesser extent as nesting places. The nests are made of mud and straw with a lining of fine grasses and feathers. The mud is carried to the nest as small pellets. The pellets are placed in even rows and often plastered to upright surfaces. Bits of straw and grass are placed between the layers of pellets. The eggs are white, speckled and spotted with various shades of brown. Four to six eggs are laid, and the young hatch in 11 to 13 days. Both parents take part in raising the young, and frequently two families are raised.

The feeding habits are considered very beneficial. The food is about 99 percent animal matter, almost entirely insects. The insects are taken largely in flight, but upon occasion the birds, perched atop corn, other cultivated crops and weeds, may be seen to catch insects.

These swallows have a sweet twittering song which they may give while in flight or at the nest. In September they gather together in flocks for the trip south.



**COLOR DESCRIPTION:**

Bill black; forehead dull white; eye brown; top of head glossy bluish black; space between eye and bill black; side of head, back of eye, chin and throat reddish brown; back of neck, breast and sides brown; black central spot on upper breast; back bluish black, streaked with gray; rump pale rusty red; wings and tail dusky brown; belly white; feet and legs dusky brown. Female similar. Length 5 to 6 inches.

$\frac{3}{4}$  natural size

# Cliff Swallow

The Cliff Swallow formerly arrived in great numbers each spring to build its gourd-shaped home of mud in the cliffs. Later the buildings of man proved more attractive than the natural cliffs. The change favored the increase of this bird until the arrival of the English Sparrow. The sparrow soon found the mud homes of the swallow much to his liking and readily took them over. The swallow has had a discouraging time from that day on.

The Cliff Swallow's nest is built of mud pellets and without straw or grass reinforcement. Hence, the nest becomes very fragile when completely dry. The neck-shaped opening hangs downward. The interior is lined with grasses and feathers. The four to five white eggs are speckled with brown. The young hatch in 12 to 14 days. Both parents take part in building the nest and raising the young.

Over 99 percent of this bird's food is insects, largely taken on the wing. Findings of the U. S. Biological Survey indicate that a diet of chinch bugs is particularly enjoyed when available. The birds flock, often with other swallows, late in August in preparation for the trip southward.



COLOR DESCRIPTION:  
 Bill black; eye brown; bluish black throughout except for black wings and tail; feet and legs black. Female similar except less brilliant; bluish black replaced by gray underneath. Length  $7\frac{1}{2}$  to  $8\frac{1}{2}$  inches.

$\frac{1}{4}$  natural size

## Purple Martin

Early in April the Purple Martin arrives in Iowa from its winter home in Brazil. At this date the insects are often stiff with the cold and are unable to move about. This largest of swallows feeds almost entirely upon insects taken in full flight, hence, he must frequently go without food when he returns too early.

Before white man came the Indians found that the martins would nest in empty gourds fastened to the top of a tall pole. Many people follow the custom of the Indians and provide these birds with community houses. They enjoy the cheerfulness and industry of the martins. Natural cavities in hollow trees, cliffs and rock piles are also used by colonies of nesting martins. Straw, grass, weeds, rags and feathers may be used for nesting material. Four to six pure white eggs are laid. The time required for the young birds to hatch varies all the way from 12 to 20 days. English Sparrows frequently nest in the same house with the martins.

The Purple Martin is not as fast in flight as the Barn Swallow, but its size makes the flight more impressive. The setting of the wings and the swift, controlled dive of this bird is breath-taking to the watcher. Late in August the martins leave on the trip to their southern home.

COLOR DESCRIPTION:

Bill dark brown above, lighter below; eye brown; short, narrow, buffy line over eye; forehead, top of head, sides of neck and back of neck grayish brown; cheeks gray, buff-mottled; chin and throat white; back grayish brown to reddish over the rump, lightly barred with darker brown; breast and belly gray; sides barred light and dark gray; wings and tail barred black and brown; feet and legs dark brown. Female similar. Length  $4\frac{1}{2}$  to 5 inches.



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

## House Wren

Almost everyone knows this little busybody with the sharp eyes and perky tail. "Jenny wren" is a name sometimes given this bird because of the manner in which it fusses along chattering and poking into every cranny in an endless search for insects. The wren's sweet song is more readily recognized than the wren itself. This little bird puts its very heart and soul into its rich bubbling song. So vigorous is the effort that the little fellow jerks from stem to stern.

Nesting places are the last worry of the wren. Old shoes, twine boxes, coat pockets, deserted woodpecker holes, tin cans and mail boxes are some of the homes accepted. Nest boxes for wrens are seen in every neighborhood. In spite of this encouragement the wren is just as common in the woodlands as it is around our homes. The nest is made of twigs and lined with spider cocoons and catkins. Six to ten white eggs thickly speckled with reddish brown are laid. The young hatch in 11 to 13 days. Other nesting birds are often driven from the chosen nesting territory of the wren. This is probably done to prevent a shortage of food when it comes time to feed the hungry young.

The long bill of the wren is well adapted to dragging insects from their hiding places. Almost the whole of the wren's diet is composed of insects. Grasshoppers, caterpillars, moths, beetles, ants and spiders are some of the more common creatures taken.



**COLOR DESCRIPTION:**

Bill brown above, lighter below; eye brown; forehead and top of head dull black with brown central streak; white bar from bill over eye and down neck to back; chin, throat, breast and belly white; sides of neck light brown; back of neck dark brown; triangle on back black with bold white streaks from neck to rump; edges of back, sides and rump buffy brown; wings grayish brown, barred and mottled with black and dull white; tail barred black and brown; under base of tail white; feet and legs pale brown. Female similar. Length  $4\frac{1}{8}$  to  $5\frac{1}{2}$  inches.

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

## Prairie Marsh Wren

The Prairie Marsh Wren arrives in the sloughs of Iowa's prairie land early in April. This bird is often referred to as the long-billed marsh wren, for the length of its bill is twice that of the Short-billed Marsh Wren. The Short-billed Marsh Wren is often found as a neighbor to the Prairie Marsh Wren. The white underparts and bar above the eye also serve to distinguish the latter from its short-billed relative.

The Prairie Marsh Wren has the characteristic, sweet, bubbling song of the wren family. The bird is thoroughly capable of giving intruders a noisy scolding.

The nest is a large ball of coarse reeds and bulrushes. The weaving displayed in the nest is something to marvel about. The nest is suspended in the bulrushes and cattails above the water. Fine grasses and hair are used as lining material. Five to eight dull brown eggs dotted and speckled with darker brown are laid. The young hatch in 10 to 13 days.

These birds glean their food from the marsh vegetation and the nearby meadows. Insects are taken for the most part, but some small crustaceans and snails are also consumed. Mosquitoes, flies, beetles, bugs, grasshoppers, caterpillars and moths compose the most of the insect food.

COLOR DESCRIPTION:

Bill black; top of head and forehead black; eye dark brown; wings and tail black with rusty red patch beneath base of tail; the remainder of the plumage slate gray; feet and legs brownish black. Female similar. Length  $8\frac{1}{4}$  to  $9\frac{1}{4}$  inches.



$\frac{1}{8}$  natural size

## Catbird<sup>x</sup>

A cat-like "mew," coming from the shrubbery during the first few days of May, serves notice of the Catbird's arrival. These nervous, energetic birds are among our most common feathered neighbors. They readily move into the heavier shrubbery about the home and the tangled, vine-grown thickets bordering our woodlands. A close relative, the Brown Thrasher, is frequently a neighbor.

The alertness and the somber, tailored plumage of this bird make it the business man of the bird world. The fellow gives us an uninterrupted scolding when we intrude upon his private life, but upon our retreat gives us a fine song from the depths of the thicket. It is a thrasher-like medley, low-pitched and broken.

The nest, a bulky structure of sticks and weed stems, usually is found in the shrubbery or tangled thicket near the earth. The interior is carefully finished with fine rootlets, bark fiber and leaves. Three to five greenish blue eggs are laid. The young are hatched in 10 to 14 days.

Fifty-six percent of the Catbird's food is composed of wild and cultivated fruit. The remaining 44 percent is largely insects. Leaf-beetles, ants, crickets, grasshoppers and cutworms are some of those taken. The Catbirds leave by the first of October.



¼ natural size

**COLOR DESCRIPTION:**

Bill black above, yellowish below; eye yellow; forehead, top of head, back of neck, sides of neck, back, rump and tail reddish brown; wings reddish brown with two white wing bars; cheek brownish gray; chin, throat and middle of belly white; breast and sides white, streaked with wedged-shaped spots of black; feet and legs grayish brown. Female similar. Length  $10\frac{3}{4}$  to 12 inches.

## Brown Thrasher

Late in April the Brown Thrasher arrives from its wintering grounds in southeastern United States. Like their relatives, the Catbirds, they prefer the shrubbery about our homes and the thickets bordering our woodlands.

As singers they are second only to the Mockingbird. High in a tree top, with back-tilted head, the thrasher presents its loud, clear, ringing medley. The call note is a harsh "cuck, cuck, cuck" given when alarmed.

In a bushy shrub or small tree the Brown Thrasher builds its nest of coarse twigs and weeds. It may be lined with rootlets, bark fiber and fine grasses. The eggs, three to six in number, are gray to greenish white thickly speckled with reddish brown. The young hatch from their shells in 13 or 14 days. They do not leave the nest for 10 to 12 days.

About 63 percent of the thrasher's food is animal matter. The greater portion of this is of beetles. Crickets, caterpillars, bugs, spiders and millipedes also are taken. The remaining 37 percent is largely of cultivated and wild fruits. The thrasher was so named because of the manner in which it scratches up the ground litter in search of its food. Late in September these long-tailed birds leave for the south.





COLOR DESCRIPTION:

Bill yellow; forehead, top of head, cheek, side of neck and back of neck black; eye brown; chin white; throat white, streaked with black; back and rump slate-gray; breast and sides brownish red; wings blackish gray; tail black, tips of outside feathers white; belly white; feet and legs black. Female similar but duller. Length 9 to 10<sup>3</sup>/<sub>4</sub> inches.

1/4 natural size

# Robin

“The robins are back!” The thrill of seeing the first Robin in spring is a part of bird life enjoyed by everyone. Not until that moment are we sure that warmer weather is really coming. Within a short time the Robin and its loud, clear, warbling song become commonplace. Perhaps we may pause long enough to listen to the plaintive and lower-pitched mating song.

The early immigrants to America named the Robin. They saw a resemblance in this bird to the robin red-breast of the Old World.

The Robin is not particular about the location of its nest but shows great care in its construction. The nest is made of mud reinforced with twigs, grass, straw or rags. The cup-shaped interior is lined with fine grasses. The greenish blue eggs are three to five in number. The young hatch in about 14 days and in 9 to 12 days more are ready to climb out of the nest. The spotted breast of the young reveals the secret of the adults, for the Robin is a true thrush. Two or more families may be raised during the summer.

A characteristic picture is that of a Robin with cocked head “listening” for earthworms. Spiders, May beetles, potato beetles, army worms, cabbage worms, white grubs, chinch bugs and grasshoppers also help to compose the 42 percent of animal matter taken. About 58 percent of the diet is vegetable matter, largely wild fruit. The Robins leave grudgingly in the late fall, and some of the more hearty birds may stay for the winter in protected places.



**COLOR DESCRIPTION:**

*Bill black, brownish below; eye brown; white ring encircling eye; top of head and back of neck bright reddish brown; sides of neck, wings, back and rump reddish brown; tail olive brown; throat and chin white; side of head gray, finely spotted with black; breast and sides white, evenly marked with rounded spots of brownish black; belly white; feet and legs light gray. Female similar. Length 7½ to 8½ inches.*

¾ natural size

## Wood Thrush

The Wood Thrush arrives early in May. The winter months are spent in the area between southern Mexico and Costa Rica. They establish themselves near the streams coursing through our heavier woodlands. For this reason they are sometimes known as "swamp robins." The Bluebird and Robin are closely related to the Wood Thrush.

The song of the Wood Thrush is highly celebrated in literature. This flute-like music generally is heard at dawn and in the evening. It has been characterized as a rich melodious "ee-o-lee." Some bird lovers compare these restful notes to musical phrases from Weber and Handel.

The nest usually is located some 5 to 20 feet above the ground on a horizontal branch or in the crotch of a tree. Twigs, straw, grass and even paper are used to reinforce the mud of the sides and bottom. The pale greenish blue eggs, three to five in number, rest in a lining of fine grasses. The young hatch in 12 to 14 days.

The thrush finds most of its food upon the forest floor. About 60 percent of the diet is animal matter. Beetles, caterpillars, ants, flies, grasshoppers, bugs, spiders and snails form most of this food. Nearly 40 percent of the diet is of vegetable matter, especially wild berries.



**COLOR DESCRIPTION:**

Bill black; eye brown; chin, head, side and back of neck, back, rump, wings and tail bright blue; throat, breast and sides brownish red; belly white; feet and legs black. Female similar but much duller. Length  $6\frac{1}{4}$  to  $7\frac{3}{4}$  inches.

$\frac{1}{8}$  natural size

## Bluebird ✓

The Bluebird, our most brightly colored herald of spring, arrives in March with the Robins and Meadowlarks. Its winter is spent in the southern half of eastern United States and south to Guatemala. A few Bluebirds have been known to remain with us through the milder winters.

The soft sweet warbling of the males may be heard throughout the countryside during the earlier days of spring. Some folks think that they are saying "dear, dear, think of it, think of it." The wistful answer of the female may result in a match.

The mates begin an early search for a nesting place. The removal of dead trees and the ever-present English Sparrow make the search a discouraging one. Finally a deserted woodpecker's home in the top of a fence post is found, and the female begins to fix the thin lining of fine grasses. Four to six pale blue eggs are laid. The male may help with the incubation which lasts about 12 days. The young Bluebirds have speckled breasts and spots on the throat and back.

There are no objectionable features about the feeding habits of the Bluebird. Sixty-eight percent of the diet is of animal matter. Beetles, grasshoppers, caterpillars and crickets compose the larger part of this. The remaining 32 percent is largely wild fruit taken when the insects are scarce. Elderberries are especially relished.



**COLOR DESCRIPTION:**

*Bill black; eye brown; top of head, back of neck and back slate-gray; cheeks and forehead black; chin, throat, sides of neck, breast, belly, sides and rump white; wings black, central feathers tipped with white and small white patch at base of long wing feathers; four central tail feathers black sometimes with white tips and outer tail feathers black with much white at tips and edges; feet and legs black. Female similar. Length 8½ to 9½ inches.*

¾ natural size

## Migrant Shrike

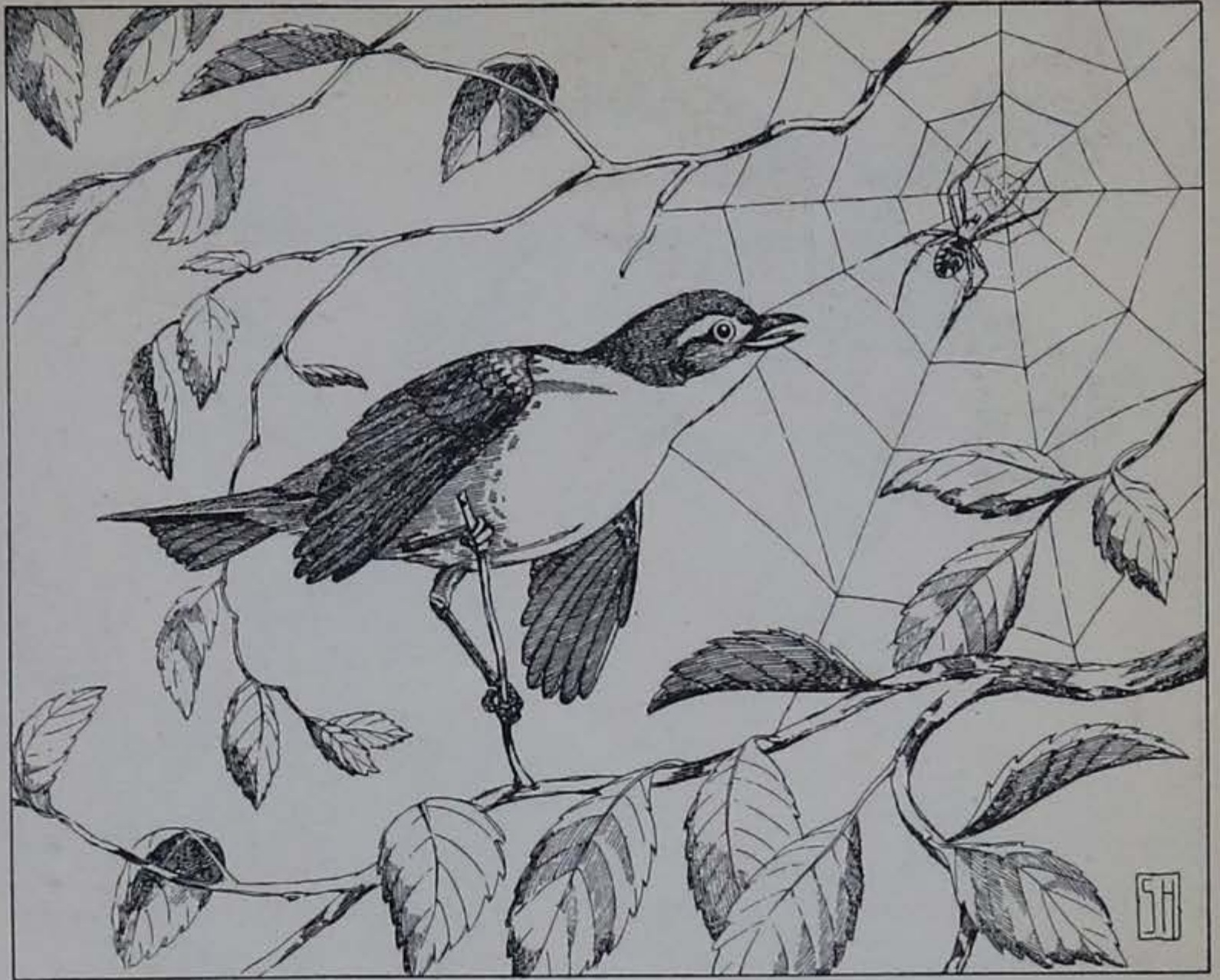
These gray, hawk-like birds-of-prey return to Iowa by the first of April. Their close relatives, the Northern and Northwestern Shrikes, have visited the state during the winter, but with the arrival of the Migrant Shrike they depart for their nesting grounds in the north. The Migrant Shrike is the only shrike that remains in Iowa to nest. About the last of October it departs for the lower Mississippi Valley and Texas.

Agricultural activities have favored the existence of these birds. A small clump of low-growing, vine-covered trees in open farm land forms an ideal nesting place. Here the shrike has a watch tower and an unobstructed view of its hunting ground. The nest is a bulky structure of grasses, weed stems and vines. The deep cup is lined with an abundance of feathers, hair, plant down and wool. The four to seven eggs are dull white, speckled with shades of brown. The young birds hatch in about 13 days.

Much has been written about the feeding habits of this song bird with the hooked beak. The food is frequently hung upon sharp thorns, fence barbs and splinters. This habit has given rise to the name "butcherbird." Sometimes the bodies of victims are allowed to accumulate into a "shrike's shambles." The principal foods of the young and adult migrant shrikes are grasshoppers and crickets. Beetles and spiders are next in importance. Ants, wasps, caterpillars, moths, bugs, mice and small birds are taken to a lesser extent. The shrikes pay well for their protection by the control of insect pests.

COLOR DESCRIPTION :

Bill black above, brown below; eye brown; grayish white bar above eye from base of bill to side of neck; small grayish white crescent beneath eye; forehead, top of head, cheeks below eye, side and back of neck gray; back and rump gray, tinged with greenish; chin, throat and belly white; breast white, tinged with greenish above; sides white, tinged with yellow; wings and tail brownish gray, leathers narrowly edged with greenish; feet and legs greenish blue. Female similar. Length 5 to 6 inches.



$\frac{3}{7}$  natural size

## Warbling Vireo

A loud continuous warble in early May draws our attention to the tree tops. Who is this unceasing singer of the open woodlands? The modest dress of the Warbling Vireo matches Nature's raiment so well that it would rarely be noticed except for its clear rippling song. The name, vireo, is suited to this fellow with the greenish tinged coat, for it means "I am green."

Like other members of its family, the Warbling Vireo suspends its cup-like nest high in a tree in a fork of the outer branches. It is a finely woven nest of weed and bark fibers with a lining of the same material. The white eggs, three to four in number, are spotted and speckled with various shades of brown. The young hatch in about 12 days. Both parents share in the duties of hatching and raising the young.

About 6 percent of the food is of wild fruit. The remaining 94 percent is almost entirely of insects, largely caterpillars and moths. Beetles, bugs, plant lice, flies and grasshoppers are also taken.

In September the Warbling Vireo leaves Iowa for an unknown winter home to the south of the United States.



**COLOR DESCRIPTION:**

Bill black; eye black; top of head yellow, tinged with orange; forehead, chin, throat and belly bright yellow; breast and sides bright yellow, streaked with reddish brown; cheeks in front of eye bright yellow, tinged with green, back of eye; sides of neck, back of neck, back and rump yellowish green; wing feathers brownish black, edged with yellowish green; tail feathers greenish yellow, edged with brownish black; feet yellowish brown. Female similar but forehead and top of head yellowish green, reddish brown streaks of breast and sides indistinct. Length  $4\frac{3}{4}$  to  $5\frac{1}{4}$  inches.

$\frac{1}{2}$  natural size

## Yellow Warbler

Even the eye of the most indifferent observer is caught by this yellowest jewel in the wave of north-going warblers. The Yellow Warblers arrive during the early part of May. Their winters are passed in southern Mexico and south to Brazil and Peru.

“Chip-chip, chip-chip, chee-wee.” This warbler’s song is as bright and cheery as its dress. It shares the local name of “wild canary” with our state bird.

The summer estate of the Yellow Warbler is found in the thickets and low brush of open country in the vicinity of water. Such places often include the shrubbery around our homes. The nest is fastened to an upright fork of a small bush not over 3 feet from the ground. The structure is formed of fine grasses, bark and weed fibers. The cup is warmly lined with plant down, wool, feathers and hair. Four to five bluish white eggs speckled with brown are laid. The young birds hatch in about 10 days, and within 9 to 12 days more they are ready to leave the nest’s downy cup.

The Yellow Warbler is highly insectivorous and plays an important part in keeping down the small insect pests which are overlooked by larger birds. Caterpillars, wasps, ants, beetles, plant-lice, moths, grasshoppers and flies are taken. A few spiders are also eaten. A very small percentage of wild fruit is found in the diet.

COLOR DESCRIPTION:

Bill black; eye brown; black mask over forehead back around the eyes and over the upper half of sides of neck; black mask margined above with grayish white; top of head, back of neck, lower half of sides of neck, back, rump, wings and tail olive-green; chin, throat and breast bright yellow; sides grayish brown; belly white; feet and legs pinkish yellow. Female similar but duller, without the black mask. Length  $4\frac{1}{2}$  to  $5\frac{3}{4}$  inches.



$\frac{3}{7}$  natural size

## Northern Yellow Throat

"Witchery, witchery, witchery." Out of the willow thicket by the brook comes this happy, tell-tale song of the Northern Yellow-throat. The suggestion of the song and the black facial mask give this warbler all the airs of a gypsy bandit. These birds winter in the milder climates of the Bahamas, West Indies and eastern Mexico to Costa Rica. In true Gypsy fashion they travel northward through Iowa early in May leaving some of their numbers behind to nest with us.

Bunchy thickets in open fields near swampy areas, lakes or streams are attractive to the yellow-throats. The nest of leaves and coarse grasses is located deep in the vegetation of the meadow. It may rest upon the ground or be suspended slightly above it upon the stems of surrounding plants. The deep cup is lined with fine grasses. The four or five pure white eggs are wreathed on the large end with spots of brown. The young birds hatch in 11 to 12 days. Within 2 weeks they are trying to fly and are climbing about the nearby thicket like acrobats.

The feeding habits of the yellow-throat are very beneficial to man. The diet is almost entirely of insects. Caterpillars, bugs, gnats and plant lice are some of the more common insect dishes on this bird's menu.



**COLOR DESCRIPTION:**

Bill black; eye brown; head, neck, breast, streak at lower edge of breast, back and rump black; upper part of sides orange-red; wings black with a patch of orange-red on front half of longest feathers; tail black, except for front half of the five outside feathers orange-red; belly whitish; feet and legs black. Female quite different; top of head and back of neck gray; back and rump greenish gray; chin, throat, breast and belly white; sides buff; wings and tail brownish black with buff replacing orange-red of male. Length  $4\frac{1}{2}$  to  $5\frac{3}{4}$  inches.

$\frac{1}{2}$  natural size

## American Redstart

The Redstarts pass through Iowa early in May. Many of them remain behind to find summer homes in the woodlands of our river basins. In suitable places they may frequently appear as the most numerous bird. Perhaps this conspicuousness is due to their ceaseless and colorful gyrations. They are without doubt the most energetic members of the wood warbler family. A characteristic part of their activity is the constant spreading and showing of the wings and tail. "Chee-wee, chee-wee, chee-wee," it sings, like the Yellow Warbler but not so vigorously.

The nest is found hidden away in the shaded undergrowth of the timber. A preference is shown for an upright fork in a vine-grown sapling. The woody fibers of vines, weeds and trees are neatly inter-woven to form the nest skeleton, and the interior is lined with fine grasses and hair. Bits of spider webs and cocoons are sometimes used to adorn the outside. The dull white eggs, three to five in number, are speckled and spotted with various shades of brown on the larger end. The young hatch in about 12 days.

Like the other wood warblers, the Redstarts are highly insectivorous. A tremendous number of small insects are taken during their continual flitting and darting about. Mosquitoes, flies, gnats, beetles, moths, caterpillars and bugs are taken. Late in September these birds leave for their winter location in Mexico and the West Indies to Ecuador and British Guiana.



**COLOR DESCRIPTION:**

Bill black; head, chin, throat, breast, belly, sides, wings and tail black; eye brown; back and sides of neck golden buff; back black, streaked with golden buff except white at sides and rear of back; rump and base of tail white; feet and legs brown. Male similar to female in late summer, autumn and winter. Female: Bill brown; top of head brown with central stripe of brownish gray; chin white; remainder of body various shades of brown, streaked and mottled with black and gray, darker on back and wings, feet and legs grayish brown. Length  $6\frac{1}{4}$  to 8 inches.



$\frac{1}{8}$  natural size

## Bobolink

By early May the joyous songs and bubbling melodies of the male Bobolinks may be heard over the Iowa countryside. Some of these handsome black and buff birds remain in the meadows of the northern part of the state to select a nesting place and to await the arrival of the less beautiful females.

A nest of grasses is built in a well-concealed depression of the earth. By the last of May the nest contains four to seven dull white eggs, thickly spotted and blotched with shades of brown. Within 10 days the young have escaped the egg shells and are crying for insects.

Nine-tenths of the Bobolink's summer food is composed of insects; the remainder is largely small grains. As the "rice-bird" or "reed-bird" the Bobolink was formerly much disliked for its destructive feeding in the rice beds of the South Atlantic States during the spring and fall migration.

Early in the fall the male birds discard their handsome wedding suits and beautiful songs. Sparrow-like in dress and giving out a musical "plink" from time to time, they gather into flocks with the females and young to leave for their winter homes by September. Their "plinking" may be heard as they move southward over the "bobolink route" on a 5000 mile journey to central South America. They always leave North America through Florida.



**COLOR DESCRIPTION:**

Bill bluish black; eye brown; forehead, top of head and back of neck streaked buff and black except for buffy stripe down the middle, yellow stripe above and front of eye and grayish white stripe at outer edge of top of head; cheeks grayish white with black streak back of eye; chin and throat yellow; sides of neck gray with black spots; breast yellow with a V-shaped patch of black; feathers of the back and rump black, broadly edged with buff and gray; sides grayish white with broad streaks of black spots; feathers of wings barred black and brown with buff margins; outer three pairs of tail feathers white; others barred black and brown; belly gray; feet and legs light brown. Female similar. Length of male  $9\frac{1}{2}$  to  $10\frac{1}{8}$  inches; female  $8\frac{1}{2}$  to 9 inches.

$\frac{1}{8}$  natural size

## Meadow Lark

The meadowlarks, welcome heralds of spring, return to Iowa early in March. Their beautiful songs, bright colors and strong vigorous flights soon become a characteristic part of the countryside.

Two kinds of meadowlarks are found in the state, but they are so similar in appearance that only their respective songs will serve to separate them in the field. The Eastern Meadowlark whistles a short high-pitched song on an ascending scale and is generally heard more in the eastern part of the state. The Western Meadowlark is found over the northern part of the state but more commonly to the west. This meadowlark has a beautiful, low-pitched, bubbling whistle that is given on a descending scale.

Both of these meadowlarks have similar habits. A nest arched over with grasses is built on the ground at the end of a short runway. Four to six white eggs spotted and lined with shades of brown and lavender are laid by the middle of May. The young hatch in 15 to 17 days. Frequently two families are raised in a season.

The meadowlark is a valuable ally of the Iowa farmer. About 75 per cent of its food is animal matter, chiefly insects. The remainder is composed of weed seeds, cultivated grain and some fruit.

The meadowlark is so reluctant to leave Iowa that many of them stay late in the fall, and a few remain through the winter in southern Iowa.

COLOR DESCRIPTION:

Bill black; eye brown; space around eye and forward to base of bill black; chin black; remainder of head orange-yellow; neck and breast orange-yellow; remainder of body black excepting white patch on front of wing; feet and legs black. Female: Pale yellow bar above the eye; side of face grayish brown tinged with yellow; throat and upper breast pale yellow; lower half of breast grayish brown streaked with white; remainder of body grayish brown. Length  $8\frac{3}{4}$  to 11 inches.



$\frac{1}{4}$  natural size

## Yellow-headed Blackbird

The Yellow-headed Blackbirds pass through western Iowa on their northward migration early in April. Many of them remain in the sloughs and marshes in the northwest corner of the state to nest. There these yellow-headed fellows may be seen clinging stiff-leggedly to the swaying bulrushes with wings and tail spread and throat swollen in an effort to sing but producing nothing more than an unmusical rasping croak.

The female commences to build the nest by the middle of May. For 3 or 4 days she carries wet bulrushes to the selected site of bulrushes, cattails or quill reeds and weaves them into a bulky but compact nest about 18 inches above the water.

Three to six eggs are deposited within the nest as soon as it is dry. The eggs are grayish white to light greenish brown speckled with various shades of brown. The young hatch in 12 to 14 days. The male may come to help the female feed the young during the 12 days that they remain in the nest if the lazy fellow feels so inclined. Probably but one family is raised each year.

The Yellow-headed Blackbird is a ground feeder. It is frequently seen walking or running over the ground in search of grasshoppers and other destructive insects. About 30 percent of its food is insects and the remainder is largely grain.

In October the yellow-heads and their families gather for the southward trip to their winter homes.



**COLOR DESCRIPTION:**

Bill bluish black; eye brown; glossy black throughout, except front of wing; front of wing bright scarlet with a broad margin of gold behind; feet and legs bluish black. Female: Bill brownish black; top of head, back of neck, back, wings and tail brownish black, heavily streaked with buff; streak from bill over eye to neck gray; chin and throat whitish, tinged with buff; breast, sides and belly streaked with black and white; feet and legs grayish black. Length  $7\frac{1}{2}$  to  $9\frac{1}{2}$  inches.

$\frac{1}{3}$  natural size

## Red-Wing (Blackbird)

Early in March flocks of glossy red-wings return to display their bright red shoulder patches in the sloughs and marshes of Iowa. Their clear musical "o-kee-leees" and striking colors lend much to brighten early spring. The young males with orange shoulder patches and the females arrive a few days later.

The females commence to build their nests late in April. Coarse grasses and rushes are woven into the standing cat-tails, rushes and sedges to form a compact nest with a deep cup. Some nests may be found in the willows and low growing trees around the marsh. The deep cup lined with fine grasses provides safety for the three to six bluish white eggs spotted and blotched with purplish black. The young hatch in 10 to 15 days.

The food of this bird has been estimated at 26 percent animal matter and the remainder vegetable matter. The animal matter is largely of grasshoppers, caterpillars and cankerworms. The vegetable food consists of seeds, including cultivated grain and some soft fruits. Large flocks of red-wings occasionally do harm to grain in the milk state.

A few red-wings remain in Iowa throughout the year during the milder winters.

COLOR DESCRIPTION:

Bill bluish black; eye brown; head, neck and front half of back black; rear half of back, rump, breast, sides and belly bright orange; tail black with yellowish orange tips increasing to cover half the length of outside feathers; wings black with patch of orange on front of wing, one white wing bar, and long feathers narrowly margined with white; feet and legs bluish gray. Female: Head, back of neck and back black, streaked with dull yellow; wings black with two white wing bars and white margins on long feathers; rump and tail dull yellow; chin and throat white, mottled with black; sides of neck, breast and sides dull orange; belly white, tinged with orange. Length 9 to 11 inches.



$\frac{1}{8}$  natural size

## Baltimore Oriole

The male Baltimore Orioles, brilliant in orange and black, return to Iowa early in May. It is said that this bird was so named because it wears the colors of Lord Baltimore's family. The continuous and rich cheerful song of the males serve to attract females to the chosen home sites when they arrive a little later.

Orioles may nest in the same tree for many years, leaving their nests as marks of their residence. The bag-like nest is a beautiful creation of woven plant fibers, strings, hair and grasses, which is suspended from the ends of drooping branches. A single white egg spotted and blotched with brown and black is laid each day for 4 to 6 days. The noisy young may be heard in the nest after about 14 days. The male, busy helping the female care for the young, does not have much time for singing.

The Baltimore Oriole is one of the few bird enemies of the hairy caterpillars. The bulk of the food is formed by caterpillars, beetles, bugs, plantlice, grasshoppers and other insects. Fruits and seeds are but a small part of the diet. Upon occasion the oriole may damage fruit, such as apples and grapes.



**COLOR DESCRIPTION:**

*Bill black; eye pale yellow; head, neck and breast iridescent greenish dark blue; back, rump, sides and belly olive-brown or bronze; wings and tail olive-brown with iridescence; feet and legs black. Female similar but duller. Length 12 to 13½ inches.*

¼ natural size

## Bronzed Grackle

During March these iridescent black birds, with the "boat" tails and straw-colored eyes, flock into Iowa.

Small colonies of these flocks remain behind to nest in the groves and windbreaks of the farms. The bulky nests of coarse grasses, weeds and mud are built high in the tree tops. They are lined with fine grasses to make a secure resting place for the four to six bluish white eggs spotted and lined with brown and black. The brown-eyed young appear in the nest after about 14 days. Many of the young reared in groves near highways are killed by automobiles.

The grackle may be justly accused of robbing nests, destroying fruit and eating grain. "Grackle roosts" near homes are undesirable because of the unsightly droppings, unwelcome odor and "talking" of the birds going to roost. About one-third of the food is insects. These birds probably destroy thousands of grasshoppers and other destructive insects during infestations. This bird is beneficial on the whole, but it should not be permitted to become too numerous.

The grackles flock together late in the summer but do not begin a southward movement until October. A few hardy birds have been known to remain through the winter.



**COLOR DESCRIPTION:**

Bill black; eye brown; head and neck brown; remainder of body glossy greenish black; feet and legs black. Female grayish brown throughout, paler below and light gray over the cheeks and chin. Length 7 to 8 $\frac{1}{4}$  inches.

$\frac{1}{8}$  natural size

## Cowbird

The male Cowbirds, closely followed by the females, return to Iowa in April. Several males may be seen together courting one or two females. With wings lowered and tail spread in full display the male invites attention with a gurgling love song. This song bears a resemblance to the bubbling of water as it pours from the narrow mouth of an upturned jug.

Cowbirds never assume the responsibility of building a nest or caring for their young. Their dull white eggs spotted with brown are deposited in the nests of other birds, especially those of sparrows and warblers. One or two eggs are usually deposited, but as many as six have been found in a single nest. Cowbird eggs hatch in 10 days, hence, the young frequently appear in the nest before the rightful owners. Young cowbirds grow fast and may kick the other young or remaining eggs out of the nest. Frequently victimized birds desert their nests or build new ones above the old.

Weed seeds form the bulk of this bird's diet. The Cowbird is named for its habit of catching insects around cows. On the whole the food habits are beneficial. However, the loss of many valuable birds because of the bad nesting activities of this bird is unpardonable.



**COLOR DESCRIPTION:**

Bill bluish gray; eye brown; head, neck, back, rump, breast, sides and belly scarlet; wings and tail black; feet and legs bluish black. Female: Forehead, top of head, back of neck, back and rump olive-green; cheeks, sides of neck, throat, sides, breast and belly greenish yellow; wing and tail feathers brownish, edged with yellowish green. Length  $6\frac{1}{2}$  to  $7\frac{1}{2}$  inches.

$\frac{1}{8}$  natural size

## Scarlet Tanager

In May the Scarlet Tanager, returning from a winter home in South America, brings all the color of the tropics into the woodlands of Iowa. The male calls "chip-churr, chip-churr" to tell us that he and his mate are present and well-concealed in the leafy tree tops.

The woodlands along streams and around lakes are preferred nesting places. The loose nest of twigs, grasses and strips of bark usually is placed on a horizontal limb high above the ground. The interior of the nest is furnished with a thin lining of fine grasses and rootlets. Three to four greenish blue eggs speckled with reddish brown are laid. The young hatch in about 13 days. Lady Tanager occasionally finds that the work of feeding the family is too much for her, and then her colorful mate must come to help.

The male tanager shows unusual color changes. The scarlet and black of the spring plumage gradually molts to green sometime during the summer and while changing presents a striking patchwork of green, red and black.

The food habits of the tanager are beneficial. Insects and fruits found around the groves and more open woodlands are taken for food.



COLOR DESCRIPTION:

Bill yellowish white; eye brown; head, neck and back black; breast rose-red; rump white, mixed with black; sides and belly white; wings black with middle of long feathers white, middle feathers white-tipped and white bar just back of front of wing; tail black with white on inner margins of rear halves of the outer three pairs of feathers showing when tail is spread; feet and legs bluish gray. Female: Feathers over top of head, back of neck and back black, broadly margined with light brown, lighter over back of neck; white or grayish bar over eye from bill to side of neck; chin white; speckled with black; breast white with tinge of rose; rump white, mixed with buff and black; wings and tail feathers similar to male with brownish black replacing the black; sides of neck grayish buff; sides buff with small spots of dark brown; belly white. Length 7 to 8½ inches.



⅓ natural size

## Rose-breasted Grosbeak

One of Iowa's finest songsters, the Rose-breasted Grosbeak, appears early in May. The song is much like that of the Robin but follows a more energetic and joyous movement. This grosbeak loves to sing and may be heard even during the dead of night. The notes are limited to curt chipping during the autumn.

The male selects a nesting site in the thickets of a woodland edge. A loose nest of slender twigs, weed stalks and rootlets is constructed at no great height from the ground. Three to five pale green eggs speckled with brown are laid. Both parents take turns on the nest during the 14 days before the young appear. The male proves to be an excellent assistant in the task of feeding the hungry youngsters.

About one-half of this bird's food is vegetable matter. Many buds and blossoms are taken early in the summer. Soft fruits, green peas, weed seeds and grain are also taken. Many insects are taken, but special credit may be granted for the grosbeak's fondness of potato beetles. The beneficial food habits and beautiful song of this bird make it worthy of complete protection.



**COLOR DESCRIPTION:**

Bill bluish gray; eye brown; a deep indigo-blue throughout, deepest over the head, neck and breast; wing and tail feathers narrowly edged with dull brown; feet and legs bluish brown. Female: Top of head, back of neck and back brown with an olive tinge; chin, throat and belly dull white; cheeks, breast and sides gray, slightly streaked with buff; wing and tail feathers dull brown with a bluish tinge and narrowly margined with buff. Length  $5\frac{1}{2}$  inches.

$\frac{3}{7}$  natural size

## Indigo Bunting

Early in May the male Indigo Buntings may be seen high in the tree tops and on telephone wires near woodland thickets singing a bright canary-like song. A good listener may observe that the notes are given in pairs and have a ringing quality. This little fellow continues to sing into the autumn after the other birds have ceased.

The more plainly dressed mate may be observed nervously at work in the thicket below. A neatly formed nest of grasses, weed stems and leaves is rapidly taking shape in a hazel nut bush not more than 3 feet above the ground. A lining of fine grasses, rootlets and hairs will be furnished to bed down the eggs. Four to five pale bluish white eggs are laid. The young appear in the nest after about 12 days. The buntings are so energetic that a second family is often raised before they depart for their winter home.

The food habits of these birds are beneficial. Weed seeds are the chief food. Berries and insects are taken to a lesser extent. Perhaps these helpful birds could be encouraged to live nearer our fields by leaving brushy thickets along fence rows, especially near one or two taller trees.

COLOR DESCRIPTION:

Bill bluish gray; eye brown; forehead and top of head yellowish gray with narrow blackish brown streaks; cheeks gray back of eye with a yellowish gray stripe over the eye; stripe from lower bill to side of neck yellow and from there stripe to breast white; remainder of sides of neck and back of neck gray; chin and throat white; black U-shaped patch on lower throat and upper breast; breast yellow; back streaked with black and buff; rump brownish gray; sides buffy gray; tail grayish brown; belly white; wings black with reddish brown patch over front of wing and long feathers broadly margined with buff; feet and legs brown. Female similar but lacks black bib; faintly streaked with black over breast and sides. Length  $6\frac{1}{8}$  to  $6\frac{3}{4}$  inches.



$\frac{8}{7}$  natural size

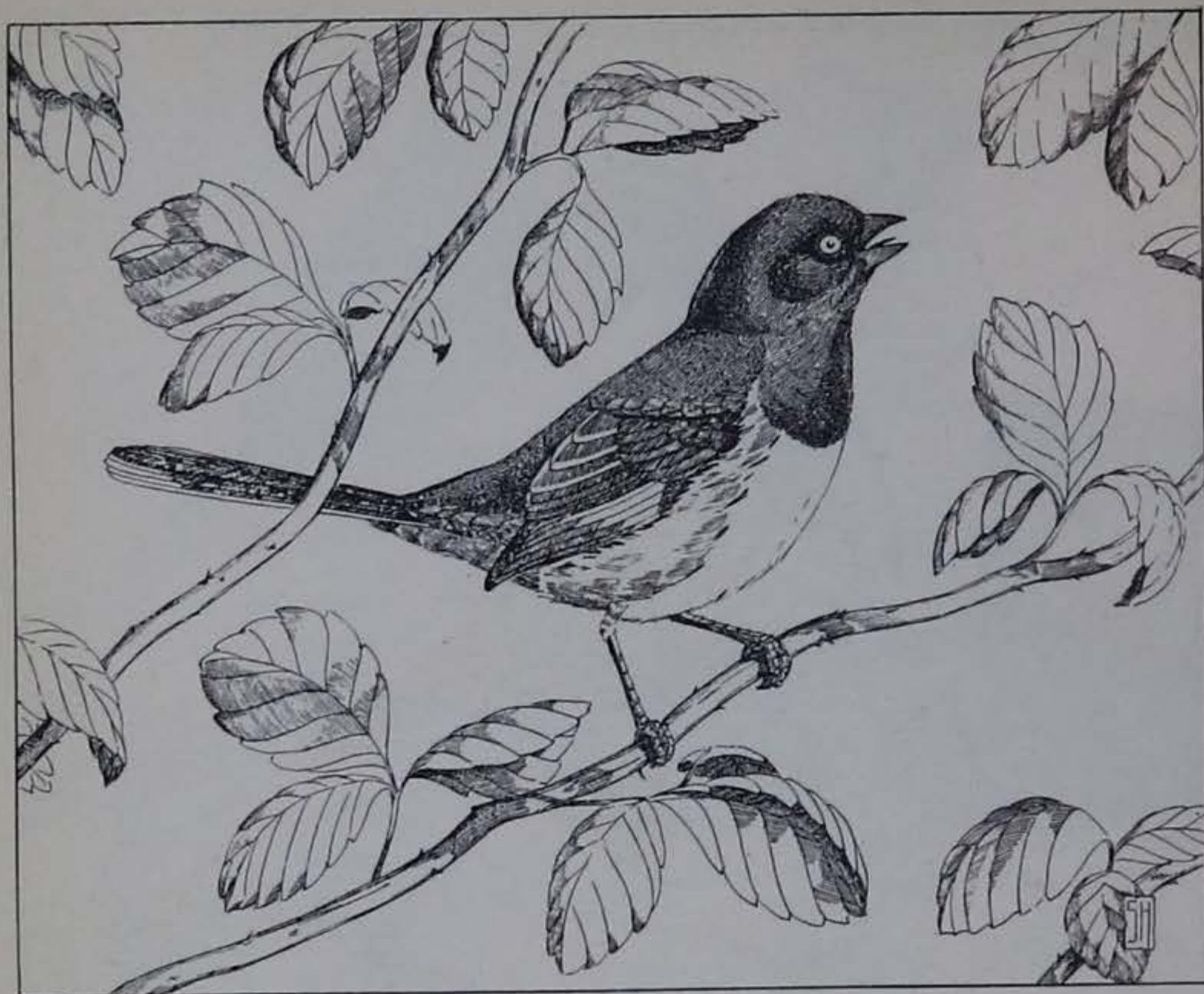
## Dickcissel

About the middle of May the Dickcissel may be heard singing "dick, dick-cissel, cissel, cissel" throughout the open farm lands of Iowa. The singer resembles a tiny meadowlark. Telephone wires and the tops of weeds and low bushes are favorite music stands for this little bird to give repeated presentations of its simple song.

Abandoned fields, clover patches and alfalfa stands are favorite summer homes for this bird. The bulky nests of coarse grasses and leaves lined with fine grasses and hairs are placed on or near the ground. Many of the nests are fastened to the bases of weed stalks but a few inches above the ground. Three to five pale blue eggs are laid. The young appear in the nest after about 11 days.

The Dickcissels appear to be more numerous during some years than others. They appeared to be rather common throughout the state in 1936.

The Dickcissel feeds largely upon insects, but some grain is also taken. The value of this bird to Iowa farmers is higher because of its fondness of grasshoppers.



$\frac{3}{7}$  natural size

**COLOR DESCRIPTION:**

Bill black; eye red; head, neck, upper half of breast, back and rump black; sides yellowish brown to buff under base of tail; lower half of breast and belly white; wings black, long feathers margined with white; tail black with outer margin of outside feathers and tips of the outer four pairs of feathers white; feet and legs grayish brown. Female similar but brown replaces the black. Length  $7\frac{3}{4}$  to  $8\frac{1}{2}$  inches.

## Red-Eyed Towhee

“Ground Robin” is a name sometimes given the Red-eyed Towhee. During April these birds return to their summer homes in the brushy woodlands of Iowa. From a more open perch the male calls attention with a “to-whee!” An intruder sends the singer diving into the underbrush. Other songs and calls may be given occasionally.

The towhee usually builds its nest upon the ground but now and then one is found in a low-growing tree or bush. The nest of grasses, leaves and rootlets is well-hidden for protection from enemies, especially straying house cats. Four to five pinkish white eggs speckled with reddish brown are laid. The young appear in the nest about 13 days after the last egg is laid.

These birds find much of their food on the ground. The energetic scratching among the trash on the woodland floor is characteristic. This noisy rummaging probably uncovers many insects and seeds. Beetles, ants, caterpillars and other insects are eaten. Wild fruits make up a small part of the diet.

The Red-eyed Towhees are reluctant to leave their summer homes in Iowa. Some of them remain with us until early winter, and less frequently a few remain throughout the year.

COLOR DESCRIPTION:

Bill grayish brown above, pinkish below; eye brown; forehead, top of head, sides of neck, back of neck and back with narrow black and buff streaks; broader buff and black streaks over back; tail grayish brown, outer pair of feathers white; rump gray; cheeks brownish gray with a gray stripe above the eye; chin and throat white; breast and sides white with brownish black streaks; belly white; wing feathers grayish brown, margined with buffy gray and with two narrow gray wing bars; feet and legs grayish buff. Female similar. Length 6 to 6½ inches.



¾ natural size

## Vesper Sparrow

The Vesper Sparrow was so named because its song proved especially pleasing during the hours between sunset and dark. The song may be compared with that of the Song Sparrow, but it is a little longer and more sweetly given.

The display of white outer tail feathers identifies these birds among the birds arriving in Iowa by early April. A few juncos also displaying white outer tail feathers may still be present, but they are slate-gray in color instead of brown.

Many of the vespers make their homes in the thickets and weed patches of northern Iowa. Nesting birds are less common in the southern one-half of the state.

A hollowed-out place in the ground among the grasses and weeds is selected for the nest. Grasses, rootlets and hairs are used to form the nest. Three to five white eggs speckled with brown are laid. The young appear after about 13 days. Two families are frequently raised during a single summer.

The Vesper Sparrow has beneficial food habits. Unlike most sparrows it eats a great many insects. Fewer weed seeds are taken.



**COLOR DESCRIPTION:**

Bill black; eye brown; forehead black with a small central streak of gray; top of head reddish brown; white bar above the eye from bill to neck; narrow black bar from bill to eye and from eye to neck; cheek below eye and sides of neck gray; chin and throat white; breast white; sides and belly grayish white; back of neck gray with black streaks; back streaked with black and brownish gray; rump slate-gray; wings brownish gray with two white wing bars; tail grayish brown; feet and legs grayish pink. Female similar. Length 5 to 5 $\frac{3}{4}$  inches.

$\frac{1}{2}$  natural size

## Chipping Sparrow

The Chipping Sparrow enjoys the company of man. This sociable little fellow with the reddish cap readily comes to live around our gardens and homes. The "chippies" arrive sometime in April. They announce their presence by singing "chippy-chippy-chippy." Sometimes it sounds much like the song of an insect.

The compact nest of the Chipping Sparrow is built in trees, bushes and vines. Grasses, rootlets and hairs are used in the construction. The use of horse hair in the nest has led some to call this sparrow by the name "hair bird." Three to five bluish green eggs are laid. The streaked youngsters appear in about 11 days. The chippie family may raise two broods in a single summer. With the family worries out of mind the parents put on streaked caps and prepare for the trip to their winter home.

This sparrow consumes an abundance of insects during its stay in Iowa, especially when insects are numerous. During early and late summer more weed seeds, such as lesser ragweed, crab grass and lamb's-quarters are taken. This trustful little bird with such beneficial food habits is deserving of our full protection.

COLOR DESCRIPTION:

Bill pink; eye brown; forehead and top of head brownish red with a central stripe of gray; cheeks gray with a brownish streak back of eye; neck gray with a tinge of rusty red; back rusty red with black and gray streaks; rump and tail grayish brown; wing feathers brownish black, margined with buffy white; two white wing bars; breast and sides gray, tinged with rusty red; belly grayish white; feet and legs grayish pink. Female similar. Length 5 to 6 inches.



$\frac{1}{8}$  natural size

## Field Sparrow

The Field Sparrow returns to Iowa by the middle of April in search of summer homes. Lightly grazed pastures, fence row thickets, brushy gullies and wooded edges prove attractive to many of them.

These plainly dressed birds are heard more often than they are seen. Our summer countryside is incomplete without their plaintive songs. The song, commencing with a few slowly given high notes, becomes faster and faster until it becomes a rapid succession of "de's." The birds may sing in different keys, but the same tempo is generally followed.

The nests are built upon the ground or in low bushes. Coarse grasses, weed stalks and rootlets are used to form them. A lining of fine grasses and long hairs is furnished. Three to four white or bluish white eggs speckled with reddish brown are laid. The young appear in about 13 days.

The Field Sparrow feeds extensively on weed seeds and insects during its visit in Iowa. A few useful insects are eaten, but on the whole this sparrow's food habits are beneficial.



COLOR DESCRIPTION:

Bill bluish black above, slate-gray below; eye brown; forehead, top of head, back of neck, back and rump streaked with black; reddish brown and gray, darkest on back; grayish white streak over the eye from bill to neck; brownish black streak from eye to side of neck; cheeks gray; chin, throat and belly white or grayish; sides of throat, breast and sides white with streaks of brownish black spots; brownish black spot in center of breast; wing feathers brownish, margined with buffy white; two white wing bars; tail reddish brown; feet and legs flesh color. Female similar. Length  $5\frac{3}{4}$  to  $6\frac{3}{4}$  inches.

$\frac{1}{3}$  natural size

## Song Sparrow

A few Song Sparrows may be seen in Iowa throughout the winter. They appear in numbers during April. Many of them remain to nest in our brushy pastures, fence row thickets and woodland margins. There they may be seen with the tail pumping up and down in flight from one bush to another. Their song is a well-known medley of notes persistently given during night and day in all kinds of weather.

The nests of coarse grasses, rootlets and dead leaves are usually built upon the ground. Occasionally one is found in a low bush. Fine grasses and long hair furnish the interior. Three to five greenish to bluish white eggs speckled with brown are laid. The parents will make repeated attempts to raise a family when the eggs and young are destroyed. The female often sits upon the eggs 14 days before the young appear. Two families may be raised in a single summer.

The food is largely weed seeds, such as crab grass, pigeon grass, barnyard grass, lamb's-quarters and lesser ragweed. Wild berries and other soft fruits are also taken. Less than one-third of the food is composed of insects. On the whole the Song Sparrow is beneficial to the farmer.



## OTHER NESTING BIRDS

Fifteen of the birds illustrated in Extension Circular 241, *Winter Birds Around My Home*, may remain in Iowa to nest. In addition to this already available information concerning their winter activities is the following discussion of their nesting habits.

### RED-TAILED HAWK

These broad-winged, fan-tailed hawks may be seen soaring in wide circles high overhead. The observer may identify this hawk by the characteristic red upper side of the tail which can be seen when the bird banks in turning.

The nest of the red-tail is usually found along woodland edges or in single trees high above the ground. Preparations for nesting begin in March. The nest is a loose structure of coarse sticks and twigs lined with grass and leaves. The same nest is often used for several seasons. Two to four eggs are laid by the middle of April. They are usually whitish, spotted with shades of brown. The young hatch in about 1 month. The adult birds take heavy toll on rodents when the young are in the nest.

### SCREECH OWL

The Screech Owl has little fear of man and frequently comes to make its home near his dwellings. Hollow trees, abandoned woodpecker holes, odd corners in buildings and even nest boxes are prospective places for this bird to raise its family. Once adopted, a nest may be used again and again by the same parents. There is no nest lining other than stray bits of wood chips, straw, leaves and feathers. Three to five pure white eggs are usually laid in April. The young hatch in about 3 weeks.

### HAIRY WOODPECKER

The Hairy Woodpecker prefers to make its home in the woods. It may seek living quarters, however, in the groves and scattered trees about our homes. Gourd-shaped nest holes are cut in dead or live trees, and occasionally a nest box is accepted. Odd chips that the parent birds failed to throw out during the cutting of the hole serve as nest lining. By the first of May three to six shiny white eggs are laid. The young hatch in about 14 days.

The Hairy Woodpecker announces its selection of a nesting territory by drumming upon some resonant tree or pole. The drumming is louder, more deliberate and shorter than that of the Downy Woodpecker.

### DOWNY WOODPECKER

The Downy Woodpecker is of a friendlier nature than its larger relative, the Hairy Woodpecker. It frequents the woodlands, orchards and shade trees about our dwellings and has been known to use nest boxes. Nest holes cut by the parent birds have an entrance about  $1\frac{1}{4}$  inches in diameter. Four to six pure white eggs are laid. The Downy's eggs are about  $\frac{3}{4}$  inch long and  $\frac{1}{2}$  inch across, whereas the Hairy's eggs are about 1 inch long and  $\frac{3}{4}$  inch across. The youngsters appear in about 12 days.

### HORNED LARK

Of the several horned larks that may be seen in Iowa, the Prairie Horned Lark is the only one that remains to nest. These larks appear in the state late in the winter. Preparations for nesting begin immediately. In aerial courtship the male rises from the ground exuberantly singing and ascends in spirals until but a mere speck in the sky. This display is concluded with a breath-taking dive to the earth.

The nests are shallow depressions in the ground, scantily lined with grasses and feathers. The more impatient birds may commence nesting activities as early as March. Although three to five dull white eggs, thickly speckled with shades of brown may be laid, early nests usually contain but three. Many of the eggs laid in March are never hatched, for they frequently freeze or are abandoned. The young hatch in about 12 days after the last egg is laid.

### BLUE JAY

Sometime between April and June the Blue Jays commence to build their bulky nests of twigs. The nest is loosely constructed and rarely lined with anything more than fine twigs and rootlets.

When the jays start to lay their eggs they cease their screaming. One egg is laid each day until anywhere from three to six dull greenish eggs spotted with brown have been deposited in the nest. In from 14 to 17 days the young birds appear.

For about the first 10 days of their lives the young birds are naked and blind, but have enough strength to raise their heads for food. At the end of 1 month one must look closely to distinguish them from their parents.

The jay announces the selection of its nesting territory to the world with harsh screeching. The housekeeping of smaller birds may come to an unhappy ending if this "keep out" call is ignored. The jays will probably tear up the nest if they find it before the eggs are laid but at a later date may dine upon eggs or choice young chicks.

### CROW

The stooping and bowing of the Crow in courtship display may be seen early in the spring. Soft, almost musical sounds may be produced in addition to the harsh "caw-caw."

The bulky nests of sticks lined with moss, shreds of bark and grass are usually prepared early in April. Four to seven bluish to greenish white eggs spotted and blotched with shades of brown are laid. The young crows appear in 15 to 18 days. Young crows are easily tamed, and born mimics, they may produce sounds much like those of the human voice. It is not true that "talking crows" must have their tongues split.

### BLACK-CAPPED CHICKADEE

The cheerful little chickadees scout around for summer homes in groves and more open wood lots.

They do not seem particular about the nest selection as long as they can get inside. Either a decayed stump close to the ground or a knot hole 50 feet in the air seems acceptable. They may accept a nest box or cut out a home in some decayed wood. They tear out splinters and chips until the hole is at least 9 inches deep.

The nest lining is a soft mass of fine grasses, moss, plant down, hair, feathers and other such warmth providing materials. From 5 to 10 white eggs speckled with reddish brown usually are laid by the first of May. Either parent may sit on the eggs. The young hatch out in about 11 days. In about 2 weeks the young birds leave the nest. The parents often raise another family before fall.

### TUFTED TITMOUSE

The titmouse prefers to nest in the woodlands and groves of southern Iowa. The nest preparations are similar to those of its near relative, the Black-capped Chickadee. The titmouse, however, prefers a natural tree cavity or nest box for his nest whereas the chickadee more often than not will cut his own home from rotted wood. Four to eight white to buff eggs spotted with shades of brown are laid.

### WHITE-BREASTED NUTHATCH

These busy little fellows begin to scout around for rotted out knot holes and other tree cavities in April. Nest boxes in orchards and open wood lots occasionally are accepted. The female bird finishes the interior of the nest with fine twigs, grasses, feathers, hairs and shredded bark. The male is permitted to carry the furnishings to the entrance, but the female takes them in and arranges them. Six to nine white eggs speckled with reddish brown are laid.

### CEDAR WAXWING

The Cedar Waxwings show no great hurry in getting to the business of raising a family. Nesting pairs may be found through June and July. The nest is a compact structure of weed stems, twigs, moss and grasses lined with finer material. Orchards and thinly wooded areas are attractive to these birds. Three to five grayish blue eggs speckled and spotted with shades of brown are laid. The duties of caring for the youngsters are shared by the parents. The young, like their parents, will remain perfectly motionless in the face of danger.

### STARLING

The Starlings have paired and started nesting activities by the middle of April. A cavity of some sort is the preferred nest location. Woodpecker homes, natural cavities, bird boxes and nooks about buildings are all inspected, and many of these places meet the not-too-exacting taste of the Starling.

The Starling's home-robbing practices make him a Simon Legree of the bird world. An opening of 1½ inches or less will prevent a Starling from entering a bird box.

Dry grasses seem to be the most popular of home furnishings, but cloth, feathers, leaves, string and other materials are sometimes used. The interior of the nest is about 3 inches in diameter and the more up-to-date ones are lined with chicken feathers.

Three to six pale blue eggs are placed in the nest shortly after its completion. In about 12 days after the last egg is laid the eggs begin to hatch. The young birds remain in the nest 2 to 3 weeks.

The Starlings may raise two or three broods each year. The first brood leaves the nest around the first of June, and they assemble in groups from all the nests in the area. These flocks of young sometimes number in the thousands. The old birds do not associate with these flocks of young birds during the day, but at night young and old alike are found in the same roost.

### ENGLISH SPARROW

The aggressiveness of the English Sparrow at nesting time is one of its most detestable faults. Its habit of placing bulky nests about the eaves and drain pipes of our homes is undesirable. Traps, poisons and planned destruction of nests are effective methods for reducing its numbers.

The nest is made of almost any available nesting material, especially grasses. Since the English Sparrow is a weaver finch, its nest is a rounded mass and not a cup-shaped home like that of a true sparrow. This bulky home is placed in protected places about buildings, bird boxes and sometimes in trees. Four to eight white to olive brown eggs are laid. The young appear in 13 to 14 days. Two to three broods usually are raised in a season. Young English Sparrows feed extensively upon insects for 10 to 12 days and thereby alleviate some of the wrong done.

### CARDINAL

The Cardinal, a regular caller at the winter feeding station, is one of our brightest nesting birds. The female selects some low growing tree or vine-covered thicket in which to build the loose nest of leaves, twigs, weeds and grasses.

The interior is finished in grass or hair. The nests have been seen anywhere from 3 to 30 feet above the ground, but most of them are found near the ground. Three to five white to bluish white eggs speckled with brown are laid. The male bird is very attentive during the 12 days the female sits upon the eggs.

### GOLDFINCH

The state bird of Iowa does not assume the business of raising a family until late in the summer. The nests are usually built in August and are lined with dried plant down. The nest is so well built that it will hold water. The young birds are often drowned in the water which fills the nest after a heavy rain.

Three to six bluish white eggs are laid. The youngsters hatch in 12 to 14 days. The young remain in the nest for about 2 weeks.

### REFERENCES

The following publications may be obtained for additional information about birds.

#### PUBLICATIONS OF THE IOWA STATE COLLEGE EXTENSION SERVICE

(These publications may be obtained from the County Agricultural Agents or from the Agricultural Extension Service, Iowa State College, Ames, Iowa, at the prices stated).

Upland Game Birds of Iowa, Extension Circular 228. 5c

Winter Birds Around My Home, Extension Circular 241. 5c

Wildlife School of the Air, Extension Radio Program. Free

#### PUBLICATIONS OF THE U. S. DEPARTMENT OF AGRICULTURE

(Titles followed by a price can be obtained only by purchase from the Superintendent of Documents, Government Printing Office, Washington, D. C. The others may be obtained free from the County Agricultural Agent or United States Department of Agriculture, Washington, D. C.).

Homes for Birds, Farmers' Bulletin 1456.

How to Attract Birds in the East Central States, Farmers' Bulletin 912. ✓

Local Bird Refuges, Farmers' Bulletin 1644.

Improving the Farm Environment for Wildlife, Farmers' Bulletin 1719.

The Crow in its Relation to Agriculture, Farmers' Bulletin 1102.

The European Starling in the United States, Farmers' Bulletin 1571.

English Sparrow Control, Leaflet 61.

The Migration of North American Birds, Circular 363. 10c

Usefulness of Birds on the Farm, Farmers' Bulletin 1682.

Food of Some Well-Known Birds of Forest, Farm and Garden, Farmers' Bulletin 506.

#### BIOLOGICAL SURVEY LEAFLET

Some Suggestions for Bird Field Trips, Leaflet Bi-922. Free from the Biological Survey, Department of Agriculture, Washington, D. C.

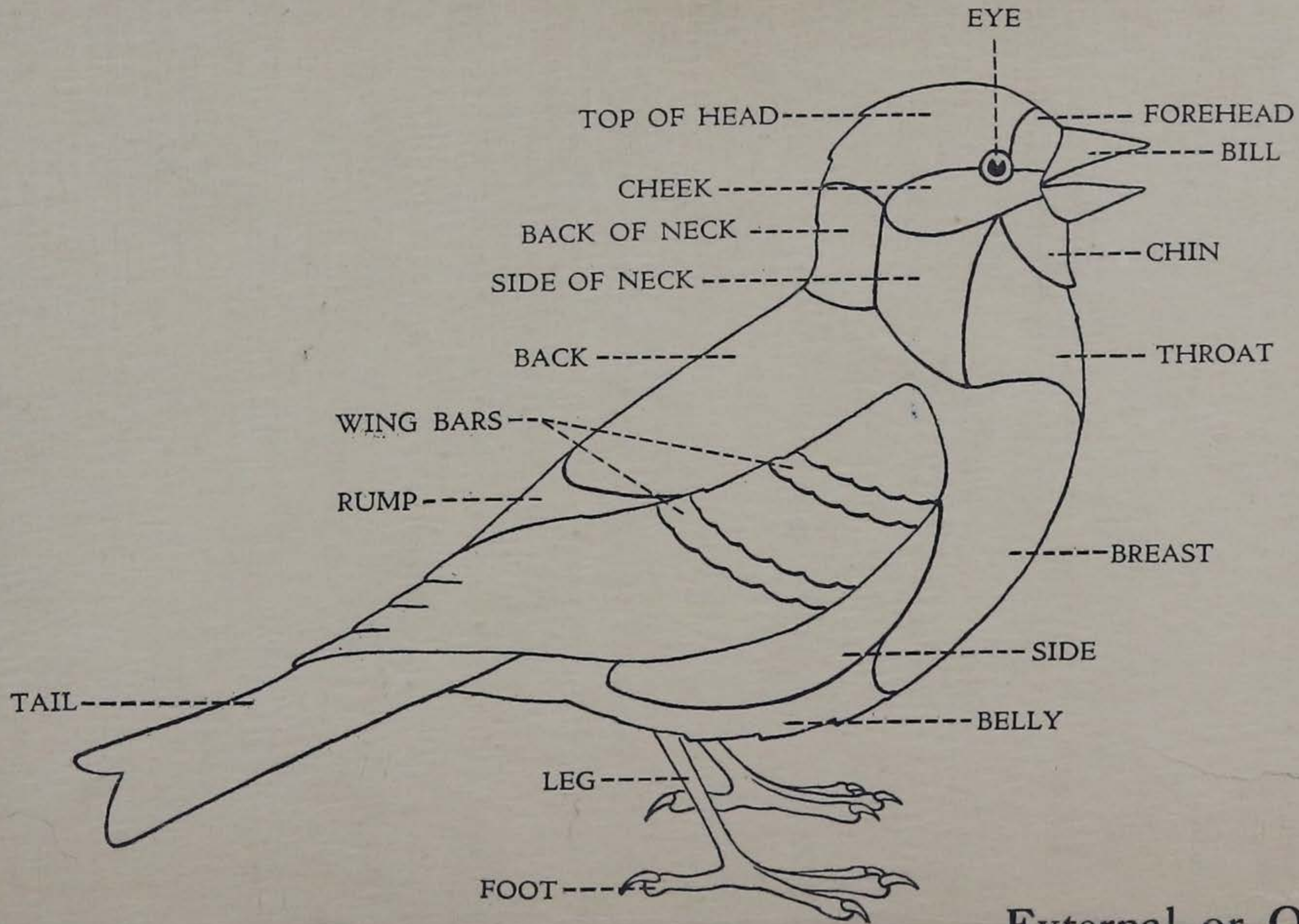
#### COLORED BIRD PICTURES

Audubon Bird Cards. Set No. 3.

Fifty summer birds of eastern North American; \$1.00; National Association of Audubon Societies, 1775 Broadway, New York City.

Bird Portraits in Color by Dr. T. S. Roberts.

Cloth binding, \$3.50; paper binding, \$2.50; in portfolio, without text, \$1.50. University of Minnesota Press, Minneapolis, Minnesota. (295 colored bird illustrations.)



External or Outside  
Parts of Bird

JUL 25 '44

FEB 21 '46

MAR -8 '45

APR 18 '46

JUN 18 '46

MAR 22 '46

SEP 12 '46

NOV 18 '46

FEB 11 '47

JUN 25 '47

AUG 21 '47

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