

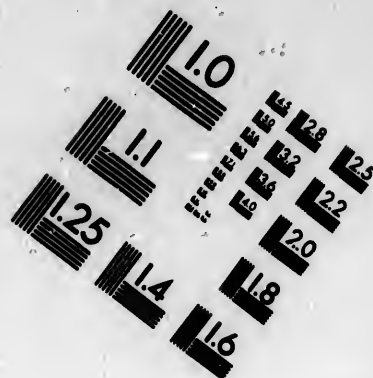
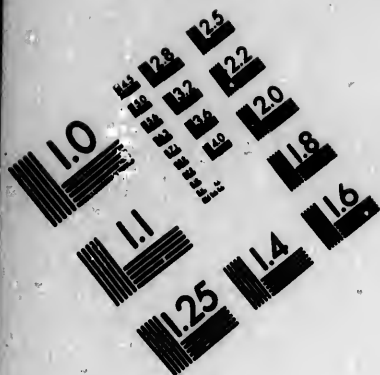
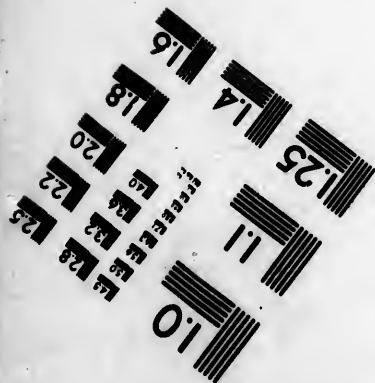
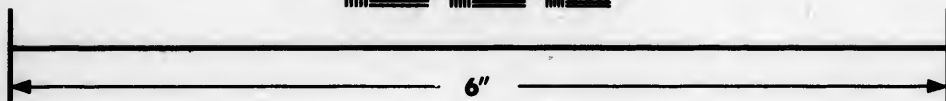
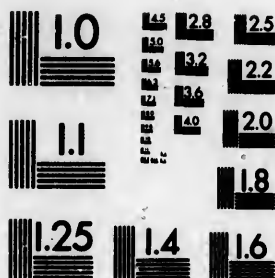


IMAGE EVALUATION TEST TARGET (MT-3)



Photographic
Sciences
Corporation

23 WEST MAIN STREET
WEBSTER, N.Y. 14580
(716) 872-4503

**CIHM/ICMH
Microfiche
Series.**

**CIHM/ICMH
Collection de
microfiches.**



Canadian Institute for Historical Microreproductions / Institut canadien de microreproductions historiques

© 1985

The
to t

**The
pos
of t
film**

Orig
beg
the
slor
othe
first
slor
or i

- ☒ Coloured pages/
Pages de couleur
- ☐ Pages damaged/
Pages endommagées
- ☐ Pages restored and/or laminated/
Pages restaurées et/ou pelliculées
- ☒ Pages discoloured, stained or foxed/
Pages décolorées, tachetées ou piquées
- ☐ Pages detached/
Pages détachées
- ☒ Showthrough/
Transparence
- ☐ Quality of print varies/
Qualité inégale de l'impression
- ☐ Includes supplementary material/
Comprend du matériel supplémentaire
- ☐ Only edition available/
Seule édition disponible
- ☐ Pages wholly or partially obscured by errata
slips, tissues, etc., have been refilmed to
ensure the best possible image/
Les pages totalement ou partiellement
obscurcies par un feuillet d'errata, une pelure,
etc., ont été filmées à nouveau de façon à
obtenir la meilleure image possible.

**The
sha
TIN
whi**

**May
diff
ent
beg
right
req
ma**

10X			14X			18X			22X			26X			30X		
12X			16X			20X			24X			28X			32X		

The copy filmed here has been reproduced thanks to the generosity of:

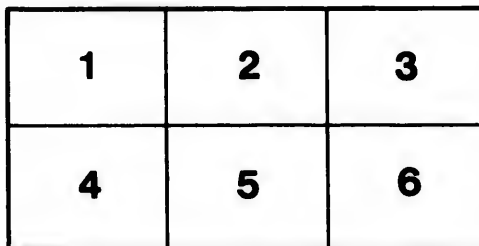
Douglas Library
Queen's University

The images appearing here are the best quality possible considering the condition and legibility of the original copy and in keeping with the filming contract specifications.

Original copies in printed paper covers are filmed beginning with the front cover and ending on the last page with a printed or illustrated impression, or the back cover when appropriate. All other original copies are filmed beginning on the first page with a printed or illustrated impression, and ending on the last page with a printed or illustrated impression.

The last recorded frame on each microfiche shall contain the symbol → (meaning "CONTINUED"), or the symbol ∇ (meaning "END"), whichever applies.

Maps, plates, charts, etc., may be filmed at different reduction ratios. Those too large to be entirely included in one exposure are filmed beginning in the upper left hand corner, left to right and top to bottom, as many frames as required. The following diagrams illustrate the method:



L'exemplaire filmé fut reproduit grâce à la générosité de:

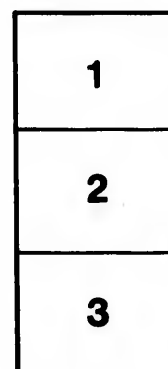
Douglas Library
Queen's University

Les images suivantes ont été reproduites avec le plus grand soin, compte tenu de la condition et de la netteté de l'exemplaire filmé, et en conformité avec les conditions du contrat de filmage.

Les exemplaires originaux dont la couverture en papier est imprimée sont filmés en commençant par le premier plat et en terminant soit par la dernière page qui comporte une empreinte d'impression ou d'illustration, soit par le second plat, selon le cas. Tous les autres exemplaires originaux sont filmés en commençant par la première page qui comporte une empreinte d'impression ou d'illustration et en terminant par la dernière page qui comporte une telle empreinte.

Un des symboles suivants apparaîtra sur la dernière image de chaque microfiche, selon le cas: le symbole → signifie "A SUIVRE", le symbole ∇ signifie "FIN".

Les cartes, planches, tableaux, etc., peuvent être filmés à des taux de réduction différents. Lorsque le document est trop grand pour être reproduit en un seul cliché, il est filmé à partir de l'angle supérieur gauche, de gauche à droite, et de haut en bas, en prenant le nombre d'images nécessaire. Les diagrammes suivants illustrent la méthode.



BIRD STUDIES

SECOND SERIES

Price, 15 cents, postpaid

The Educational Publishing Company
Limited

24 Hunter Street, Toronto

BIRD STUDIES

THE SONG SPARROW.



APPEARANCE : *Length*,—six to six and a half inches, about the same size as the English sparrow. *Colours*,—brown head with three gray bands, a brown stripe on the sides of the

2-

sketches

sc/p

throat, brownish gray back streaked with reddish. Underneath gray shading to white and streaked with very dark brown. Tail, plain grayish brown; wings without bars; a black spot on breast.

RANGE: North America from the Arctic Regions to the Gulf.

MIGRATIONS: April and October or November.

SONG: Usually a full round note, three times repeated followed by a sweet, short, lively intricate strain in which the notes seem to fairly tumble over one another. It has few rivals as a songster.

NEST: *Position*,—in low bushes or shrubs. *Materials*,—weeds, grass and hair. *Eggs*,—whitish, tinged with blue or green and blotched and marked with brown. There are often three or four broods in a season, but the nest is never used for two consecutive broods.

FLIGHT: Inclined to be heavy and laboured the tail works up and down during flight. The bird rarely flies upward when disturbed.

FOOD: Cut-worms, caterpillars, plant-lice, canker-worms, ground-beetles, grasshoppers and flies; in winter, weed-seeds.

HABITS: Sings at all daylight hours and often in the night. Very neighbourly. Often singing and nesting near houses.



APPEARANCE : Length—Five to six inches, very slightly smaller than the English sparrow. **Color**—rusty brown, mixed with a great deal of white ; a noticeable white "eyebrow" that runs around the cheek also. Female slightly lighter than the male.

RANGE : United States and Canada ; not

DISTRIBUTION: Common throughout the
Atlantic and Northern New England.

MIGRATION: Winter residents. Common
over most of the first snow storm and fol-
lowing the snow northward in the spring.

SONG: A chirping twitter.

FLIGHT: Rarely higher than a bush or
fence—almost a ground bird.

FOOD: Seeds of weeds and plants.

HABITS: Instead of hopping like most of
the sparrow tribe, it walks over the heavy
fields, rarely perching higher than a bush or
fence rail. It seems to delight in icy winds
and snow storms and is irrepressibly cheerful,
fattening on a diet of seeds which it picks up
where other birds would starve.

THE KINGBIRD.



APPEARANCE : *Length*,—8 inches, about two inches shorter than the robin. *Colours*,—ashy black above, white, shaded with ash colour beneath. The male has a concealed crest of orange-red on the crown. Tail, black, terminating with a white band conspicuous in flight. Wing feathers edged with white.

RANGE : North America east of the Rockies, and between the Arctic regions and South America.

MIGRATIONS : May, September, a common summer resident.

SONG : A rasping clatter, a harsh chattering *ching, ching*.

HAIR: *Parula*,—in trees, often in the
chords.

FLIGHT: A strong, swift flight, with short
quick strokes, darting suddenly from his perch
in pursuit of insects on the wing. He is identi-
fied by his habit of hovering.

FOOD: Robber flies (a bee pest); wasps,
chafers, gadflies, grasshoppers, katydids, crick-
ets, and many other insects. Contrary to
public opinion, he does not eat bees.

HABITS: A brave little bird, attacking
and driving away hawks and crows. He sits
on a fence rail and watches for insects, with a
good deal of noisy calling while he waits.
Before and during nesting season this rasping
chatter is kept up all day long.



APPEARANCE : Length,—eleven to twelve inches, larger than the robin. Colors,—blue above with black band around the neck joining some black feathers in the back. Under parts dusky white, the wing coverts and the tail bright blue, barred with black. Rounded tail having many feathers edged and tipped with white—a fine crest.

RANGE : From Northern Canada to Florida and Eastern Texas, and from the Atlantic to the prairies.

MIGRATIONS : A permanent resident, but seen in flocks moving southward or northward in search of other hunting grounds.

ROCK : *Psittacus*, not very high, is a very

FEED : Fruit, grain, thin-shelled nuts and the larger seeds of trees and shrubs. When the jay hides away squirrel-fashion against a rocky cliff. More than half his food in summer consists of insects.

HABIT : Blue jays rove about usually in flocks. He does not eat young birds as has been charged against him, though he sometimes sucks the eggs of other birds. He hides away food to provide for a time of want and by burying acorns and small nuts has planted innumerable trees. They are very mischievous, and love to carry off and hide away small and glittering articles. They mimic the cry of the hawk, apparently for the fun of frightening the other birds, and they love to roost out a poor owl in the daylight and chase him about.

SCARLET TANAGER.



APPEARANCE : *Length*,—Seven to seven and a half inches, about three quarters the size of a robin. *Colours*,—Male, bright scarlet in spring, with black wings and tail, and under parts greyish white. In autumn, olive brown above, with wings and tail dark, with olive margins, and underneath greenish yellow. The female, similar to the male as he appears in autumn.

RANGE : North America as far north as Northern Canada and southward in winter to South America.

MIGRATIONS : May and October. A summer resident.

FLIGHT } A swift flash of beauty.

SONG : A rich, sweet melody. A loud and cheerful carol.

NEST : *Position*,—Upon the horizontal branch of some oak or pine tree. *Materials*,—a disorderly looking structure of fibres and sticks. *Eggs*,—Three or four, bluish green in colour.

FOOD : Berries and insects.

HABITS : Shy and retiring, frightened from the haunts of men because hunted unmercifully for his beautiful plumage. Fond of deep thickets of oak or evergreen. The male bird, with his tell-tale coat, sings in some distant tree while the female broods, only approaching her to feed her. The young birds are motley in colour and safely inconspicuous.

DOWNY WOODPECKER.



APPEARANCE : *Length*,—six to seven inches, about the size of the English sparrow. *Colours*,—black above, striped with white. Wedge-shaped tail has outer feathers white, barred with black. Middle tail feathers black. A black stripe on top of the head and a distinct white band over and under the eyes. The male has a red patch on the nape of the neck. Wings have six white bands crossing them transversely, and are white underneath.

RANGE : Eastern North America from Labrador to Florida.

Microtus : Resident all the year.

NOTE : A short, sharp *peck, peck*, continued often into an abrupt rattling cry. He also drums, beating a rolling tattoo with his bill on some resonant limb. This is his love song. But he also drums to tell where a tree is decayed and likely to be an easy spot to chisel out a nest, and to startle borers under the bark, so that they may move. His sharp ears detect the faint noise which they make and he knows just where to tunnel for them.

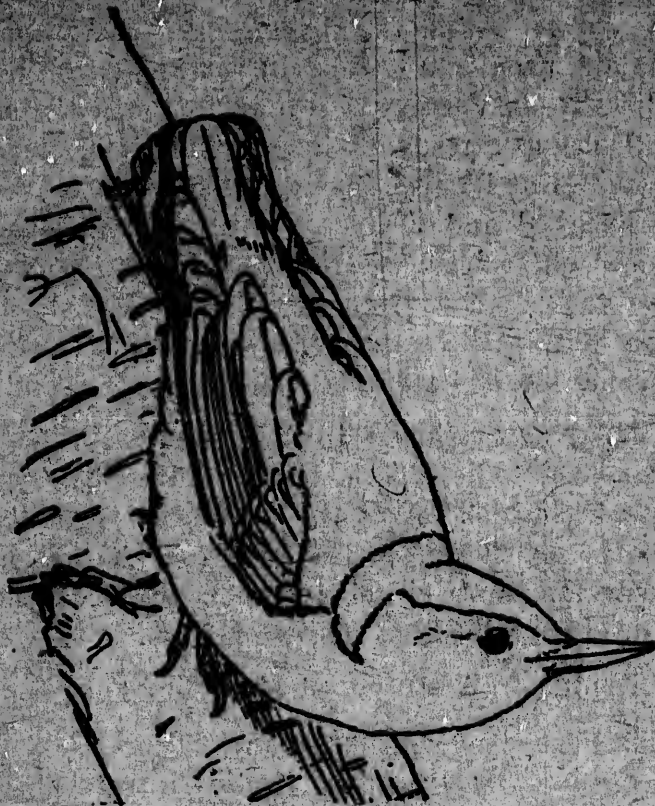
NEST : *Position*.—In a partially decayed tree, which he chisels out for himself. The opening which forms the entrance is usually on the south side of the tree. In the spring he and his mate chisel out a new nest. In the winter each bird has its own hollow.

FLIGHT : A strong, straight flight, seldom long.

FOOD : Borers, grubs, beetles, insects' eggs.

HABITS : These birds light and remain flattened against the side of a tree hunting for insects. They prop themselves by their stiff, outspread tails. Also their toes are arranged for clinging, two behind and two before. The downy spends the winter in single blessedness, mating early in the spring, when he and his mate chisel out a new home. He is fond of suet or meat and may be coaxed to come quite near if bits of these are hung on a string out of the cat's reach.

THE WHITEBREASTED NUTHATCH.



APPEARANCE: *Length*—Five and a half to six inches. A little smaller than the English sparrow. *Colour*—Upper parts slate; top of head and nape of neck, black. Wings, darker slate, edged with black, which fades out to brown. Tail, brownish black, barred with white. Sides of the head and underneath parts, white, shading to pale reddish under the tail. The body is flat and closely built. The bill is longer than the head.

RANGE: Canada, Eastern United States, Mexico.

MIGRATIONS: October, April. A common resident, most prominent in winter.

SONG: A nasal, expressionless *ank-ank*.

NEST: *Position*—Deeply hidden in the woods. *Materials*—A cavity in a tree, a woodpecker's old hole, or one made for themselves, with their sharp bills, lined with leaves, feathers and hair.

EGGS: 5 to 9, creamy speckled.

FLIGHT: Short, business-like flights, from tree to tree.

FOOD: During summer and early autumn, insects which they find in the bark and in cracks or openings of trees. In winter, they have also a store of nuts and larger grains, which they have hoarded away as does a squirrel or woodpecker. Often they wedge nut or grain securely into some hole or crack.

HABITS: Nuthatches are sometimes called tree mice from their way of travelling up and down and around the trunks and branches of trees. They are able to do this on account of their much curved claws, which are provided with sharp little hooks that catch in any crack or rough place. They can run upward, downward or sideways on the trunks and branches with incredible ease, and their long bills help them to find insects deeply hidden in cracks or in the deep holes in the thick bark of the trees.

THE RED-EYED VIREO.



APPEARANCE : *Length*—Five and three-quarters to six and a quarter inches. Very slightly smaller than the English sparrow. *Colour*—Upper parts light olive-green, dull, slaty-gray cap with black marginal line; a white line over the eye, looking like an exaggerated white eyebrow; a brown band running from the base of the bill through the eye, the iris of which is ruby red. Under parts white; the sides, under tail and wing coverts shaded with light greenish yellow.

RANGE : Canada and United States, as far

west as the Rockies. Winters in Central America and South America.

MIGRATIONS : April, October; a common summer resident.

SONG : A monotonous monologue, repeated over and over again—*You see it—you know it—do you hear me?—do you believe it?* sang very sweetly with a rising inflection at the end of each short, jerky sentence.

NEST : *Position*—Usually swung from a small crotch in an oak or apple tree or sapling, and securely laced through the rim on to the forked twigs. *Materials*—dried grass, bits of bark, lichen, wasps, "nest paper," spider-web, plant down, and curly vine tendrils. The shape and weave is similar to the Baltimore Oriole's, but not so deep. *Eggs*—tiny, white, usually three or four.

FLIGHT : Quick, short, energetic flights.

FOOD : The countless bugs, worms and other insects found on foliage—caterpillars, weevils, inch-worms, May-beetles, leaf-eating beetles.

HABITS : Mostly seen exploring the foliage of trees or shrubs, cocking their heads to see under the leaves and singing as they work. Their greenish colour is a protection to birds working in the foliage.

THE BOBOLINK.



APPEARANCE : *Length*, seven inches, little larger than the English sparrow. *Colours*, male. In spring plumage black with light yellow patch on upper neck, also on edges of wings and tail feathers. Rump and upper wings splashed with white. Middle of the back streaked with pale buff. Tail feathers pointed. In autumn, dull yellow brown, splashed with light and dark on back, wings and tail. Two decided dark stripes on the top of the head. Female, same as male is in autumn.

RANGE : North America from Eastern coast to Western Prairies. In early autumn it migrates to the Southern States, and in winter to South America and the West Indies.

MIGRATIONS : A common summer resident. Migrates in May and from July to October.

SONG : A most hilarious harmony of rippling reckless music. He sings both on the wing and perched.

NEST : *Position*, on the ground, usually in a hay field or meadow. *Materials*, a loose heap of twigs, leaves and grasses.

FLIGHT : The bob-o-link shoots up into the air like a skylark and propels himself with just the tips of his wings, seeming almost to hover, until still singing he drops into the grass again.

FOOD : Seeds of wild grasses, weeds, etc. In the south, they do millions of dollars worth of damage to the rice fields, and as a consequence are slaughtered by the millions.

HABITS : They arrive in Canada in late May or early June and proceed to their courting at once. Just after nesting time the males moult and comes out in their autumn dress. They often migrate early in July ; their moulting taking place during this leisurely change of residence. As they come north again in the spring they adopt their bright summer dress. The bob-o-link is one of our very sweetest singers.

THE GOLDFINCH.



APPEARANCE: *Length*—about five inches, an inch smaller than the English sparrow. *Colour*—male, in summer bright yellow, except on crown of head, frontlet wings, and tail, which are black. Inner webs of tail white. In winter, the head is olive yellow, there is no frontlet, the back is brownish, the shoulders and throat yellow, and the underneath parts brownish white. Female, brownish olive above and yellowish white underneath.

RANGE: All of North America except the extreme north.

MIGRATIONS: May, October; a common summer resident, sometimes remaining throughout the winter.

SONG : A wild, sweet, rapturous melody. Often a ripple of sweet twittering notes when on the wing.

NEST : *Position*—in the crotch of a bush or tree, or in a tall, branching thistle plant. *Materials*—a compact, cup-shaped nest of fine grass, vegetable fibre and moss, lined with a thick cushion of thistle-down. *Eggs*—four to six, bluish white in colour.

FLIGHT : Very characteristic wavy or undulating flight.

FOOD : Seeds of thistles, wild lettuce, mullein, asters, golden-rod, daisies and other weeds. Marigold, sunflowers, coreopsis, zinnias, cornflowers and gaillardias will draw them to the flower garden to feast on the seeds.

HABITS : The goldfinches are the latest of our birds to nest, except the cedar-waxwings. The nest is not built until late July or August, the birds remaining in flocks until this time.

THE COWBIRD.



APPEARANCE. *Length*, seven to eight inches; about one-fifth smaller than the robin. *Colours*,—Male much like a black-bird; an iridescent black, but head, neck and breast are a glistening dark, rich brown. Female, dull, grayish brown above, a shade lighter below and streaked with paler shades of brown.

RANGE : Southern Canada, United States, Northern Mexico.

MIGRATIONS : March, November; a common summer resident.

NOTE: A squeaking "Kluck-tse-e-e" squeezed out with difficulty, or a gurgle like water being poured from a bottle.

NEST : No nest. The female lays her eggs in the nests of other birds, particularly the yellow warbler, but also and often other warblers, vireos, sparrows, and occasionally woodpeckers, fly-catchers, orioles, thrushes, and wrens.

FLIGHT : Much like the blackbird, but less strong and graceful.

FOOD : Insects mainly, also seeds, grains, etc.

HABITS : Often seen alone or in small flocks walking about the pastures behind cattle ; or even perching on their backs to feed on insect parasites where cattle are herded together in large numbers. The male bird changes his mate with every fancy. When courting the male cowbird parades with spread wings and tail, and acts much as if violently nauseated.

The female sneaks about woods and thickets slyly watching her chance to lay an egg in the nest of some other bird. Since she always chooses some smaller bird to bully in this way the young cowbird as it grows crowds its young foster brothers out of the nest—and thus sacrifices the lives of at least part of a brood of valuable, insectivorous song birds.

PHOEBE



APPEARANCE: *Length*—Seven inches, about one inch longer than the English sparrow. *Colour*—Dusky olive brown, darkest on the head, wings and tail dusky, some tail feathers whitish on their outer edges. Underneath parts a dull yellowish white.

RANGE: North America from Newfoundland to the South Atlantic States, and westward as far as the Rockies. It winters in Mexico, Central America, and the West Indies.

MIGRATIONS: April, September or October. A common summer resident.

SONG: A sweet, soft call, *pewit—phoebe*, *pewit—phoebe*.

Nest: Position—In niches under a verandah or porch roof, or under the beams of an empty barn or shed, or under bridges, culverts or trestles. The phoebe likes a covering to protect the nest from the spring rains. **Materials**—Moss and lichen, plastered together with mud, and lined with long hair or wool. **Eggs**—From four to six. Two broods are raised in a year.

FLIGHT: Graceful and energetic.

FOOD: Almost entirely insects, which are mostly caught on the wing. Flies, wasps, May beetles, clock beetles, elm-destroyers, the cutworm moth and countless other winged pests fall victim to these busy little hunters.

HABITS: The phoebe comes close about houses and barns, seeming to like the vicinity of human habitations.

He likes to perch on the peak of a building, or the end of a tall limb of an apple tree where he may watch for insects on the wing. He turns his head to and fro in eager watch for them, wagging his tail vigorously as he calls *Pewit—phoebe*. The male birds come first, the females following later. They return unerringly to their old nesting-places, coming year after year if not frightened or driven away. They usually build two nests in a year, the second only a little distance from the first. They probably discard the first nest because it is infested by lice. Sometimes they tear it down and build another on its site.

THE REDWINGED BLACKBIRD.



APPEARANCE : *Length*—Slightly smaller than the robin. *Colour*—Male, coal black, shoulders scarlet, edged with yellow. *Female*—Feathers finely and inconspicuously speckled with brown, black and yellowish white.

RANGE: Practically the whole of North America.

MIGRATIONS: March, October. A common summer resident.

FLIGHT: Strong, swift and graceful.

SONG: A fluted *ke, kong-ker-ee*, or a rich, sweet liquid *o-ka-lee*, or a *chuck*, like the other blackbirds.

NEST: *Position*—Built in the sedges or reeds. *Materials*—Grasses and stalks of weeds, lined with finer grass and weeds. *Eggs*—Pale blue, streaked or spotted with purple or black.

FOOD: Some grain; great quantities of injurious insects and weed seeds.

HABITS: The males arrive in flocks often three weeks before the females, who also come in flocks. Mating is usually over by the first of May. The male bird sings sweetly during the period of incubation, usually near the nest.

THE INDIGO BUNTING.



APPEARANCE : *Length*—five and a half to six inches, smaller than the English sparrow. *Colour*—male, rich blue, with green tints, deepest colour on head; wings, tail and lower back with a brownish wash more noticeable in the autumn plumage. Wing and tail quills deep blue, margined with light. Female, brown above yellowish on breast, shading to white underneath, indistinctly streaked. Wings and tail feathers darkest, sometimes with a slight tinge of blue on outer feathers and on shoulders.

RANGE : North America from Hudson Bay to Panama—most common in the east. Winters in Central America and Mexico.

Season: May and September. A summer resident.

Song: A loud, rapid and very sweet strain, growing weaker and weaker, ending as if the bird were out of breath, or too weak to finish, then suddenly beginning over again. He often sings for half an hour at a time, and seems to prefer the noon-time of a mid-summer day for his musical performances.

NEST: *Position*—hidden securely in low bushes or tall, rank grass. *Materials*—mainly fibres of grass, often interwoven with bark, feathers, hair, wool or down. *Eggs*—small, blue-white.

FLIGHT: Sparrow-like, short and laboured.

FOOD: Seeds of grasses and herbs, with an occasional insect.

HABITS: These birds return summer after summer to the same spot. Their favourite haunts are borders of woods, roadside thickets, garden shrubbery with open pasture lots for foraging grounds near by.

When their eggs are approached, they warn off the intruder with a "cheep-cheep." The male bird is the greatest singer. He usually pours out his song from some high conspicuous perch.

THE QUAIL OR BOB WHITE.



APPEARANCE : *Length*,—nine and a half to ten and a half inches. *Colour*,—upper parts bright brown with black, white and tawny flecks; rump, finely mottled grayish brown with streaks of blackish colour; tail, ashy, inner feathers of tail mottled with buff; a black band on the upper breast, and a black line from the bill beneath the eye; front of crown, black; white forehead and white stripe over the eye and extending down the

side of the neck; breast and under parts white or buff crossed with irregular narrow black lines; on sides and flanks the feathers are chestnut with white edges barred with black. On female, there is little or no black on the upper breast and the markings which are white in the male are a pale buff.

RANGE: United States and Southern Canada.

MIGRATIONS: A permanent resident.

SONG: A clear staccato whistle, *Bob White, ah, Bob White.*

NEST: *Position*,—in some small depression in a dry grassy field, or in a hollow at the root of some old tree, or weed-hedged wall. *Material*,—a lining of leaves and grasses. *Eggs*,—from ten to eighteen, brilliantly white, packed closely in, pointed end down to economize space.

FLIGHT: At sign of danger the birds (they are usually found in flocks) rise from the ground with a loud *whir-r-r*. They fly in a strung out line and with great speed.

FOOD: Seeds, grain, insects and berries, a great friend of the farmer.

HABITS: Little bob-whites follow the parent birds much as little chickens follow the hen. Their chief enemies are the hunter with his dog, foxes, weasels, and hawks. Mowing machines often destroy the nest and the birds. A second and third clutch of eggs

They must in a circle of the ground, some
out and talk toward the centre. Often the
old male bird acts as sentinel outside the ring.
The birds rise at the sound of danger, taking
refuge in flight, dropping again suddenly and
remaining motionless on the ground like
partridges. They are very cunning and often
outwit both hunter and dogs. They seldom
take refuge in trees. If the eggs are handled
or disturbed the bob-whites forsake the nest.
They are of great value to the farmer as they
destroy insects and weed seeds in large num-
bers.



