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Glimpses of Kansas Wildlife

# *Cottontail Rabbit*

Photo by Leroy E. Lyon

FIRST IN A SERIES





By LEROY E. LYON

Just call the cottontail rabbit number one.

If you do, you can't be all wrong for the cottontail is the nation's number one game animal. Although rarely bragged about in hunting circles, more cottontails are harvested each year by hunters than any other game animal.

There are three true species of rabbits in Kansas—the eastern cottontail, desert cottontail and swamp rabbit. All three belong to the family *Leporidae* and the genus *Sylvilagus*.

While many people regard jack-rabbits as being members of the rabbit family, they are actually hares—not rabbits.

The eastern cottontail is common throughout the state in areas of good cover but in western portions is generally found only in taller plant cover, particularly along stream courses.

The desert cottontail lives in open country in the western one-third of the state and is usually confined to shortgrass areas above the floor or stream valleys. Desert and eastern cottontails closely resemble each other except the desert has shorter ears and shorter hind legs.

Swamp rabbits are found only in extreme southeastern areas, primarily in Cherokee, Crawford and Labette counties, where they live in wet bottomlands along the Neosho River and its tributaries. They are somewhat larger and darker than cottontails.

A cottontail has long, soft brownish fur on the head, neck, back and sides. The belly, chin and insides of the legs are white. Its trademark is its short tail, the underside of which is white. When a cottontail bounces away to seek cover, its fluffy white tail closely resembles a bouncing snowball or cottonball, hence its popular name, cottontail.

Since cottontails are vegetarians, nearly every kind of green plant is included on their menu, particularly in summer when they have an almost unlimited supply of succulent greens. In winter or at other times when greens are not available, they survive on stems of young woody plants.

A rabbit's home range is small,

seldom exceeding more than five acres. To be good cottontail range, food and cover must be close together.

Cottontails are most active and more frequently seen at night and in early morning and evening hours when they are feeding. Except for short feeding periods, most daylight hours are spent in or near shelter, most generally in "forms"—matted grassy hollows in and beneath vegetation where the rabbit crouches.

Burrows used by rabbits for protection from enemies are usually made by other animals.

In Kansas breeding begins in February or early March and continues through August. With this long mating season, a female may raise as many as five litters each year.

After the female carries her young for about 28 days, the young are born, blind and naked, in a nest which the doe has made. To fashion a nest, the doe digs a saucer-like depression in the ground and lines it with grass and fur.

At birth, each small rabbit weighs about one ounce and is scarcely larger than a man's thumb. Most eastern cottontails will average four to six young per litter while litters of the desert cottontail and swamp rabbit are usually smaller.

On the first day after birth, the mother spends several hours with her young. Thereafter, she visits the nest periodically to nurse them but doesn't stay long. Most of her visits are in the morning and evening.

In about a week the young cottontail's eyes are open. At about two weeks of age, the youngster leaves the nest for its first solid meal and is now able to scamper through the grass. Even at this age, the alert youngster knows how to "freeze" or remain motionless, making him nearly invisible in good cover. This is another secret of cottontail survival—those who fail to learn, don't survive.

By the end of the third week the young are weaned. They leave the nest permanently and are entirely on their own. The female, which breeds immediately after giving birth, then prepares for her next family.

The cottontail is extremely important as a food supply for it is

preyed upon by nearly every meat eater that walks, crawls and flies, including man. To understand how rabbits can flourish in spite of such heavy pressure from predators, one needs to understand the rabbit's reproductive capacity. Quite often, young born in the spring are able to bring off a litter of their own before the end of summer. Thus, under perfect conditions, it is possible for a pair of cottontails to build to a population of 40 rabbits by fall.

Rabbits, in common with most wildlife, normally produce an annual surplus of young that far exceeds the supporting ability, or carrying capacity, of winter habitat. The more surplus, the higher the mortality.

Research has shown that about 85 percent of all rabbits die or are killed each year—even if they are not hunted. Because of this high annual turnover, the surplus rabbit crop is ours to use or lose. Hunting allows sportsmen to harvest as much of the surplus as possible and salvage it for human use and recreation.

Although rabbits have the capacity to reproduce rapidly, the young cannot survive long if suitable habitat is not present throughout the entire year. Grassy cover is needed for nesting and some heavy brushy cover is required for escape from predators. The key to managing cottontails is to provide this habitat so they can survive during the entire year, particularly in late winter months when large areas are left without a good balance of adequate cover and food.

Cottontail numbers can be increased in an area by such management techniques as planting shrubby cover plants or construction of brush piles, or both.

At present, intensive management is rarely necessary for this abundant little mammal. But, unfortunately, recent trends toward clean farming threaten the cottontail's abundance as well as that of many other wildlife species. The clearing of brushy fence rows and odd corners removes the protective cover a cottontail requires.

Thus, if certain land practices are continued, we may someday have to work hard to keep the nation's number one game animal with us.



By VIC McLERAN

Adaptability seems to be a key word in describing the raccoon, since his ability in adjusting to new circumstances and surroundings make him at home throughout the Sunflower state.

One of our most common wild neighbors, the 'coon as he is commonly called, can be identified by the black "burglar's" mask across his face and the five to seven black rings which encircle his tail.

The average Kansas raccoon weighs about fifteen pounds although specimens weighing 25-30 pounds have been recorded. The North American record is a 62-pound, six-ounce specimen shot by Albert K. Larson of Nelson, Wisconsin, on November 4, 1960.

By contrast, the much smaller raccoons of the Florida Keys weigh only four or five pounds.

Length varies, but most Kansas 'coons average about 30 inches in length including the 10-inch ringed tail.

The best raccoon habitat in Kansas consists of woods containing large hollow trees and a nearby water source. Hollows are utilized as dens. Water in some form is a requisite since much of the raccoon's food is obtained from creeks, rivers and ponds.

An omnivorous feeder, the raccoon's appetite is prodigious and he would never make it as a dieter. **Foods include: fish, crayfish, frogs, turtles, reptiles, birds, small mammals, insects, eggs, fruit, vegetables, grain, nuts, berries and almost anything else which is available.**

The raccoon's taste for watermelon and corn make him a pest in areas where such products are grown.

*Procyon lotor*, as the raccoon is known scientifically, has been the subject of an interesting argument for many years. The animal's habit of immersing food in water led many biologists to believe he was washing the food. Even the second part of his name, "lotor" means washer. Another theory claimed the 'coon didn't have adequate salivary glands and, for this reason, needed to moisten his food. However, most mammalogists now

contend the animal is a "dunker" and a "feeler" but not a washer. They say the 'coon's sense of touch is highly developed and he simply enjoys touching and toying with objects.

The animal's yearly cycle begins in January or February when adult males, or "boars," seek receptive females for breeding.

The female, or sow as she is called, has selected a den earlier. Preferably, this is a hollow, high in a tree, but if this isn't available, splits in limestone ledges, abandoned farm buildings, unused drain tiles, hollow logs and a number of other sites may be used. In western Kansas, where hollow trees are scarce, raccoons often use ground dens made by badgers or skunks. Even in eastern Kansas, they will utilize an old woodchuck hole if suitable hollows can't be found.

Utilization of the many different types of den sites is an example of the raccoon's versatility which has enabled him to survive and even multiply in areas where less adaptable species have perished.

Born in April or May following a 60-day gestation period, young raccoons are both blind and naked. Their eyes open two or three weeks later. The young remain in the den and continue to nurse until eight or ten weeks of age at which time the mother begins to take them on foraging trips at night. Although basically nocturnal, raccoons are occasionally seen on cloudy, overcast days.

During these trips the animals can often be heard as they move along the creek with a churring sound which is similar to a cat's purr but much louder. Another call is the tremolo, an owl-like sound which is often confused with the screech owl's call. When frightened or angry, raccoons give a loud piercing scream or squall which stimulates all other raccoons to action.

**Young 'coons remain with the mother through the summer and into fall. In late autumn, young 'coons which were born that spring seek dens in which they will spend the winter, either singly or in groups.**

Raccoons become rather lethargic during cold weather and, particularly

in the North, spend most of the winter sleeping. However, they are not true hibernators. In Kansas, the animals are active most of the winter except for prolonged periods of extremely cold weather. In southern states where mild winters are the rule, raccoons seldom den up.

The raccoon is high on the mammal scale of intelligence, a fact which makes him an amusing though mischievous pet. If taken young, the animals tame easily but must be released eventually since they usually become aggressive with maturity. For this reason, the Kansas Forestry, Fish and Game Commission urges that young animals be left in their natural habitat.

'Coon hunting at night with hounds is popular, especially in the eastern part of the state where animals are most numerous. A valid Kansas hunting license is required and there is no bag or possession limit. The season is open year-around due to the abundance of the animals. If an individual sells the hides of the 'coons he has shot, he must also have, in addition to a hunting license, a valid trapping license.

A desperate fighter and an extremely strong animal, the raccoon is capable of killing a dog larger than itself. If the dog or dogs can be lured into the water, the raccoon can easily drown several.

The meat of the raccoon is edible and considered excellent eating by many. Baking, broiling, frying and barbecuing are popular methods of preparing the meat but care should be taken to remove all fat from the carcass prior to cooking since it can taint the flavor of the meat.

Man with his auto is a major mortality factor since thousands of raccoons are killed annually by autos along roads and highways where animals prowl in search of food.

The raccoon's future, for the most part, is secure in Kansas. An abundance of suitable habitat coupled with the animal's adaptive ability, assure us that Kansas coon hunters will be able to "follow the hounds" for many years.





# THE RACCOON

Photo by  
Leroy E. Lyon

*Glimpses of Kansas Wildlife*

SECOND IN A SERIES



# Bushytails

By LEROY E. LYON

Busy little homebodies would be an apt description of fox and gray squirrels—Kansas' most familiar woodland mammals.

Belonging to the family *Sciuridae* which includes marmots, woodchucks and prairie dogs, the squirrel has been correctly named by scientists. The family name, *Sciuridae*, means "shade-tailed"—a most appropriate title when one considers the long bushy tail which is the squirrel's trademark.

The tail is a most valuable asset and is used in most of the squirrel's activities. It provides shade from hot sunshine and in cold weather is often curled about the body for warmth. It is also used for balance in climbing and is important in slowing descent when the squirrel either falls or jumps to a lower limb.

Of the two species, fox squirrels are more abundant in Kansas and are found nearly statewide. Shelterbelts

and hedgerows have provided ideal homes for fox squirrels in western Kansas. Fox squirrels prefer open stands of mature timber containing broadleaf trees.

Gray squirrels are found only in eastern counties and are generally limited to oak-hickory forests with bushy understory vegetation.

Coloration varies in both species. In Kansas, fox squirrels are usually bright rust brown in color while the gray squirrel's basic color can best be described as a salt-and-pepper gray.

Fox squirrels, however, occur in three different color phases, each phase being dominant in a particular section of the country. In northeast states, from Pennsylvania to Maryland, they may be steel-gray in color. In the South, black is the predominant color although some have black-and-white faces with grizzled reddish fur. In western portions of the range, including Kansas, the fox squirrel wears a yellowish brown coat.

Gray squirrels also vary in color and quite often black ones are found in the northeast part of the range where the black color is more dominant. As with most animals, some individuals are born which are either albino (pure white) or melanistic (jet black). As a result, occasional black or white specimens may be found throughout the entire squirrel range.

Regardless of the coloration, a gray squirrel nearly always has a tail which is bordered with white-tipped hairs. A fox squirrel's tail is usually trimmed rusty yellow. Gray squirrels also have tawny fringes on the hair along their sides. This is a natural coloration and in no way indicates a cross between the gray and fox squirrel species. The tawny fringing is quite common on gray squirrels in Kansas.

The gray squirrel is also smaller and more agile than his fox squirrel cousin. Grays will usually be from 15 to 20 inches in length, including the seven- to 10-inch tail. Usually a gray will weigh about one and one-half pounds.

Fox squirrels, largest of tree squirrels, vary in length from 19 to 30 inches, including a 12- or 13-inch tail. This squirrel may weigh as much as three pounds.

The diet of both species is largely gleaned from woodlands. Acorns are the favorite food of both squirrels although many other kinds of nuts and seeds are also eaten. Buds, roots, fruit, flowers, leaves, twigs, insects, fungi and grains, particularly field corn, are all included on the bushy-tail's menu. Fox squirrels expand their diet in winter to include osage orange seeds and bark.

Gray squirrels are ambitious, hard-working rodents. They are up at dawn and begin work immediately either feeding or gathering food for future use. Fox squirrels are not

**The squirrel hunting season this year will open June 1 and remain open through Dec. 31. The daily bag limit has been set at five; possession limit consists of 10.**

**The Commission set the longer season after study by the game division indicated that such a season would not endanger the basic squirrel resource. Data indicated squirrels are currently underharvested in Kansas. It was also felt that increased hunting pressure could be justified since hunting is not a significant limiting factor on squirrel numbers.**

**Like most small game species, the squirrel resource is a crop of the land. In a year when food is sufficient and production of young is about normal, the total fall population is nearly two and one-half times larger than in spring. Unlike other crops of the land, we cannot stockpile game surpluses since a large percentage of squirrels and other small game birds and animals will fail to survive through winter whether we hunt them or not. If they aren't hunted, many will die from natural causes—winter habitat will support only a certain number.**

**Thus, the longer squirrel season and increased hunting pressure are tools of game management whereby some of the natural mortality of squirrels can wisely be converted into human use and recreation.**





early risers but are active throughout the day. Both species are born hoarders spending considerable time and effort in stashing away a supply of nuts and seeds during late summer and autumn months. At a later date, when food is scarce, the squirrel will locate the buried nuts by using his keen sense of smell. Nuts buried by a squirrel are not his private property but are available to others as well. When a squirrel is hungry, it will dig up the first nut it can find whether he planted it or not. Every buried nut is a potential tree and some of those not located by the squirrels will sprout into trees.

Winter finds tree squirrels fat and well prepared. Both species are active throughout the year. They never hibernate but cold temperatures, high winds, rain or snow may keep them inside their dens for a few days.

For a home they may use hollow trees or construct outside nests of twigs, leaves and bark. Generally a tree cavity is preferred to provide better protection. Outdoor leaf nests,

constructed as "second homes" during summer, are quite often flimsy affairs. But the winter nest's tightly matted roof and sides keeps the occupant warm and dry.

Mature females usually raise two families (litters) each year. The first litter is born in early spring, usually in March or April, while the other litter is born in July or August. Females born the previous year only raise one litter. The average squirrel family is three. However, gray squirrels may have larger litters, from one to six per litter, while fox squirrels may only occasionally have as many as five.

A newborn squirrel weighs only about one-half ounce at birth. It is naked, blind and deaf—about like a baby mouse. When about three weeks old, the youngster is covered with hair and is able to hear. Eyes do not open until the young squirrel is four or five weeks old. When about seven weeks of age, the young bushytail leaves the nest and goes exploring. Litters are weaned at 10 weeks.

In Kansas, both fox and gray squirrels are legal game during the hunting season established by the Kansas Forestry, Fish and Game Commission. This year the season has been lengthened and will run from June 1 through Dec. 31 with a daily bag limit of five and a possession limit of 10.

In a year when food is sufficient and production of young is about normal, the total fall population is nearly two and one-half times larger than in spring. But, even if they aren't hunted, a large majority will fail to survive through winter since many will die from natural causes. Thus, the annual surplus squirrel crop can be utilized without harming the squirrel resource.

Without question fox and gray squirrels are an important addition to Kansas' wildlife scene—and a favorite of all who hunt them with gun or camera.



# Mourning Dove

Travel just about anywhere in the United States and you'll find the mourning dove, one of America's most common and familiar game birds. Because of its wide distribution, it is the only game bird which breeds in all 48 adjoining states.

The mourning dove, *Zenaidura macroura* to the scientist and called a turtle-dove by others, is a member of the pigeon family and a cousin of the now extinct passenger pigeon.

The name turtle dove originated centuries ago when Roman soldiers invaded England where they noticed the bird's cooing call resembled the word "turl" in their language. Later, when it was established that the bird was a dove, English sailors brought the name turtle-dove to this country.

No newcomer to this continent, the mourning dove has been around for some time. The LaBrea tar pits in California and the Pleistocene cave deposits in Arizona have both yielded remains of the species.

A sleek, streamlined bird, the dove resembles a small pigeon with a weight varying from 3½ to 5 ounces. The bird ranges in length from 11 to 13 inches with a wingspread of about 18 inches. The tail, which is narrow and pointed, averages six inches in length.

The brilliantly colored male is covered above with a bluish-gray to olive-brown shading while underparts are gray. Tail feathers are characterized by a black crossbar with a white tip. The breast is gray with a rosy-pink metallic sheen.

The slightly smaller female, though duller in color, is similar to the male in appearance although she shows more brown in her plumage.

The juvenile bird has much duller plumage than the adult male, is smaller, and has a shorter tail.

With the arrival of spring, the mourning dove fulfills its symbolic role as a bird of love. The male takes advantage of his brilliant colors, vocal talents, and aerial skills to woo a female.

In Kansas, courtship activities may begin as early as mid-March when the first migrants arrive from southern wintering grounds.

The male first selects a nesting territory which he defends vigorously against other male intruders. He then attempts to attract a female by his constant cooing. This sound, which is most commonly heard in the spring, gives the bird its sad, mournful reputation. Cooing is at its highest intensity during early morning hours, tapering off in the heat of the day and picking up again during evening hours.

A system of counting these calls has been developed which provides biologist with an indication of the size of the breeding population.

According to "coo counts" conducted by the Kansas Forestry, Fish and Game Commission the central third of the state has the largest breeding population.

In addition to his cooing, the male also performs a courtship flight. With deep, forced wingstrokes he gains altitude and circles gracefully, with tail spread and wings rigid, over his territory and back to his perch or the female dove.

When nesting begins, the female undertakes the task of architect forming the loose platform nest while the male carries the twigs and grass stems for construction material. In some areas, particularly in western counties, doves nest on the ground.

The female begins laying as soon as the nest is completed. Usually just two eggs are laid; clutches of three or more eggs are rare. Incubation starts when the second egg is laid. The pure white, elliptical-oval shaped eggs hatch 14 days after incubation begins.

Both parents participate in incubation and in the care of young squabs. They are helpless and practically naked at birth but grow rapidly and fly when about two weeks old.

Nestlings are fed "pigeon milk" during their days in the nest. It is a granular milk-like secretion from the crop of both

parent birds, which is regurgitated directly into the youngster's mouth. After several days, seeds are gradually worked into the squab's diet. The mourning dove's diet is limited almost totally to seeds.

Nestlings remain in the nest for about two weeks after hatching then leave the nest to begin life on their own. Within a few days after the young leave, the parents may begin reneating. The reproduction potential of the mourning dove is relatively high, and unlike many other game birds which lay only once a year, two to five dove broods may be reared in a season. The dove's courtship activities end in August and the last of the juveniles are on their own in early September.

By late August or early September doves form loosely-knit flocks of 20 to 30. Migration follows soon after with most of the actual flying done in the morning and late afternoon. The first major cold front each fall usually pushes most of the doves out of the northern part of the state.

During winter, doves congregate near areas which provide a plentiful food supply and good roosting cover. Eastern Kansas retains some small wintering flocks, but most Kansas birds move south into Oklahoma, Texas and Mexico.

Doves are relatively short-lived—even if they are not hunted. The average life span is from nine to ten months. Since the mourning dove's natural mortality is high, properly regulated hunting tends to crop some of the expendable surplus without damaging the following year's breeding population.

Like waterfowl, doves hold migratory game bird status under federal laws. But in some states, doves are classed as songbirds and are fully protected by law.

In Kansas doves are a game bird and about one million birds are harvested annually without harming the next spring's breeding population.

Songbirds or game birds, all will agree the mourning dove is truly one of America's outstanding birds.



A black and white photograph showing a Bobwhite Quail and its chick in a nest. The adult quail is on the left, and the fluffy chick is on the right. They are surrounded by tall, thin grasses and other vegetation. The text "Glimpses of Kansas Wildlife" is at the top, "Bobwhite Quail" is in the center, and "Photo by Ken Stiebben" is at the bottom.

**Glimpses of Kansas Wildlife**

# **Bobwhite Quail**

**Photo by Ken Stiebben**



By LEROY E. LYON

King of Kansas' game birds—that's the Bobwhite Quail.

In nearly every way the bobwhite has proved himself worthy to wear the regal crown though in size he is nearly the smallest of all game birds. To hunters who seek him in the fall and to farmers who observe coveys in their yards, he is indeed a most favored bird and an acquaintance of nearly every Kansan.

Perhaps nothing has earned the coveted title more than the loud, distinguished call for which the bobwhite is named. Anyone who has ventured outdoors in spring and early summer is familiar with the cheery whistle "ah-bob-white!," a signal that a male is seeking a mate.

Few birds can match the bobwhite's sporting characteristics but the bobwhite does not reserve his kingly qualities for sportsmen alone. His food habits make him extremely valuable for landowners since, in spring and summer, he consumes large numbers of grasshoppers and other insects. About one-seventh of his annual food consumption consists of insects. Weed seeds are also important in the year-around diet as are grasses, sedges, fruits, and waste agricultural grains.

Found throughout the state, bobwhites are most abundant in eastern portions but in western areas are found only in choice local habitat, particularly along stream courses. Generally bobwhites reign supreme wherever food, shelter and nesting cover occur in close proximity. The preferred habitat of the bobwhite is a mixture of grassland, cropland, brushy areas and woodland interspersed to provide abundant areas of "edge"—those margins where two or more cover types come together.

The Kansas bobwhite is a small, six to seven ounce bird of feathered beauty. Except for the mourning dove, bobwhites are the smallest of Kansas' upland game birds.

The bobwhite's feathers contain a mixed pattern of brown, chestnut, buff, black and white. The males, by their white eye stripe and black and white throat pattern, are easily distinguished from the buffy marked females.

Gregarious birds during most of the year, bobwhites stay in small groups called coveys. When evening comes, the little flock roosts on the ground squatting in a circle with tails pointing toward center and heads facing out. If some wandering predator discovers them in the night they can scatter in all directions like an exploding bombshell assuring that most will escape.

With the first hint of spring, coveys break up and mate selection begins. Courtship is a colorful ritual which becomes more intense as spring advances. A pair is formed when a hen accepts a cock by allowing him to mate. The two are then inseparable for the rest of the breeding season. In Kansas mating usually begins in April and by early May, coveys are completely broken up.

Two weeks to a month or more after courtship begins, mated pairs make their nests. A majority of nests—shallow depressions in the ground lined with grass or other vegetation—are most often found in dead, weedy growth of the previous year.

One white egg is laid nearly every day until an average of 13 or 14 have been laid. It takes from two to three weeks for a hen to complete her clutch. Incubation does not begin until all eggs are laid. During egg-laying and incubation periods, the cock stays nearby serving as a sentry.

The nesting period is one of great danger from natural hazards and as a result many nests are destroyed by torrential rain and hail, predators and farming operations. But renesting is common in the quail world if the nest is destroyed before or early in incubation.

After 23 or 24 days of incubation, the eggs hatch and chicks become lively as soon as dry. The nest is then deserted.

A bobwhite pair will not raise more than one brood a summer but will accept and care for strays from other broods. Because of this, coveys with chicks of mixed ages are occasionally seen.

As chicks mature their gregarious nature becomes more evident. There is a greater interchange of individuals and groups from one covey to another

so that eventually coveys are seldom a family group but a mixture of several families. This mixing of coveys intensifies in early autumn with quail moving around the countryside in what is called the "fall shuffle"—a mixing of birds among different broods.

Healthy bobwhites which survive summer must still face old age from which there is no escape. Even under good conditions the life span of a quail in the wild is very short, 8½ months on an average.

Since food and cover can support just so many quail through harsh winter months, quail numbers are gradually reduced by natural mortality until by spring only a few are left to carry on the bobwhite's earthly reign. Normally less than 60 percent of the October population will survive to the following spring. This loss is fairly constant whether there is hunting or not. This explains why the season is set in early fall so that as much as possible of this natural mortality can be salvaged for human use.

To consider not harvesting these birds so as to build up more birds in the future just doesn't work. The annual turnover is a way of quail life and unlike wheat or other crops of the land bobwhites cannot be stockpiled. To have more quail it is necessary to improve the carrying capacity of the winter habitat so as to carry over more breeders. These, in turn, provide a larger annual surplus or turnover—hence more birds for harvest.

While regulated hunting does not impair quail populations or threaten the future of the bobwhite in Kansas, recent trends toward clean farming of land have had detrimental effects on the bird's welfare and threaten to reduce suitable habitat in the future. Continued disregard of the year-around requirements of the bobwhite for food and cover will mean reduced bobwhite populations in the future.

Thus, while the bobwhite may be the "king," he is at best just an earthly monarch who is dependent upon man for his survival. If his empire is to continue and if the majestic call of the bobwhite is to be preserved for future generations he must have the help of all Kansans.





**Glimpses of Kansas Wildlife**

**Ring-Necked Pheasant**

**Photo by Thayne Smith**



*Phasianus colchicus*. That's what a scientist calls him.

To hunters who seek him each autumn, the scientific name, regardless of how it's pronounced, simply can't begin to do him justice. To them he is just a wily pheasant which deploys every trick in the book to make fools of grown men.

Regardless of what he is called, the ring-necked pheasant is a leading game bird in Kansas and the provider of many thousands of hours of hunting pleasure. While he's a gorgeous creature, he is also a rugged bird and most elusive when pheasant season arrives. If he wants to disappear, he can hide under a clump of grass. But if the situation calls for more drastic action, old *Phasianus* can take a choice of scooting along on foot or flying out of sight.

The ring-necked pheasant is an exotic game bird—a native of Asia. The chicken-sized bird was introduced in the United States in 1880 and then found a home on the Kansas prairie in 1905-1906 when the Kansas Forestry, Fish and Game Commission stocked 1,500 pairs in 84 counties.

Today, these colorful game birds are distributed over all but the south-east portion of the state. The principal pheasant range is west of a line from Phillipsburg to Coldwater.

Pheasants live along "edges"—those areas where two or more cover types come together. They normally will be found near the edge of a field, draw, lagoon, fencerow, shelterbelt or other type of cover where they feed or hide.

Grain, weed seeds, wild fruits and berries make up the bulk of a pheasant's diet. Also included in the bird's fare are some insects and vegetative materials.

When it comes to beauty, no other game bird in Kansas can match the ringneck. A typical cock pheasant has a blue-green head with tufted "ears" and a patch of bare, reddish skin around the eyes. He also wears a white collar which gives him the ring-neck name. The rest of the cock's plumage is a varied pattern of iridescent colors—blue, green, red, burnished copper, yellow and white. He has a long, magnificent tail which is cross-barred with black and brown markings.

By contrast, the hen's plumage is a drab, mottled blend of brown, light

buff and black—a perfect camouflage that renders her practically invisible when sitting on the nest. She also has a long, pointed tail, though not so long as the male's.

The ringneck cock is a well armed warrior. He has spurs, or spikes, on the back of his legs just above the feet which are used during spring courtship battles. These rough projections grow slowly and by a rooster's first autumn are short, blunt, lusterless and rough. But, by the second fall, spurs are hard, dark, glossy and pointed. Early in the hunting season these characteristics can be used to distinguish between young-of-the-year and adults.

During winter months, pheasants flock together. Cocks and hens may be in the same flock but it is not uncommon for a winter flock to be either all cocks or all hens. In late February or early March, groups start breaking up and cocks begin establishing courting territories.

Individual boundaries or crowing territories are not exact or permanent but each cock regards a particular area as his private domain and defends it from trespass by other males. If another rooster enters the territory, a battle begins. Hens are free to come and go as they choose and are courted by males as they enter territories.

Crowing is the territorial call of the male. Hens are attracted to a rooster's territory by his raucous cuh-aw-w-w-cak call. The call is followed by six to eight wing claps which can be heard a short distance away. When a cock courts the hen he struts around her several times taking short, rapid steps. The wing nearest the hen is held in a drooping position and tail feathers may be partially spread as he displays his brilliant plumage in an obvious attempt to impress his lady love.

Courtship continues for several weeks during which the cock gathers a harem of three to seven or more hens. Even when numbers of each sex are nearly equal, there are usually several hens to a cock while some males remain single. Therefore, it is practical to harvest more cocks than hens during the hunting season without upsetting production success.

Actual mating usually does not begin until a month or more of courtship. In Kansas, the cock and hen usually mate in late April or early May.

By early May, the hen begins laying a clutch of brownish-olive colored eggs. There are usually 11 or 12 eggs per clutch, sometimes there may be as many as 20. Incubation does not begin until all eggs are laid.

Pheasant nests are built on the ground in shallow depressions and may be found in wheatfields, hayfields, pastures, roadside rights-of-way and fencerows.

After an incubation period of 23 or 24 days, all eggs in the nest hatch within a 24-hour period. Chicks develop rapidly and when two weeks old are able to fly short distances. They are fully grown when 18 weeks of age. Plumage also develops rapidly and by the time hunting season arrives in November, most young roosters appear in adult plumage.

The beautiful boss of the Kansas prairie "lives fast, loves hard, and dies young." The average life span of a pheasant is less than one year although some live longer. Studies show there is an annual population turnover—replacement of old birds by young ones—of 50 percent or more. This annual loss is fairly constant whether there is hunting or not. Thus hunting provides an opportunity to wisely convert some natural mortality into human use and recreation.

Current hunting regulations permit harvesting of cock birds only. Since there is no open season on hens, hunters must make positive identification before shooting.

As with other forms of wildlife, what is done to the land and its plant cover determines whether pheasant populations flourish or decline. Providing adequate cover and food (habitat) throughout the entire year is the key to pheasant abundance.

It makes little difference what title you tag on *Phasianus colchicus*, the wily pheasant from Asia. He has earned a place of honor among the native fauna of Kansas and has received the respect and admiration of sportsmen and farmers alike.

*Phasianus colchicus*. However you pronounce it, you can almost hear the raucous cackle of the ringneck as he bursts from cover and see the gaudy plumage as he towers straight up on the rise.

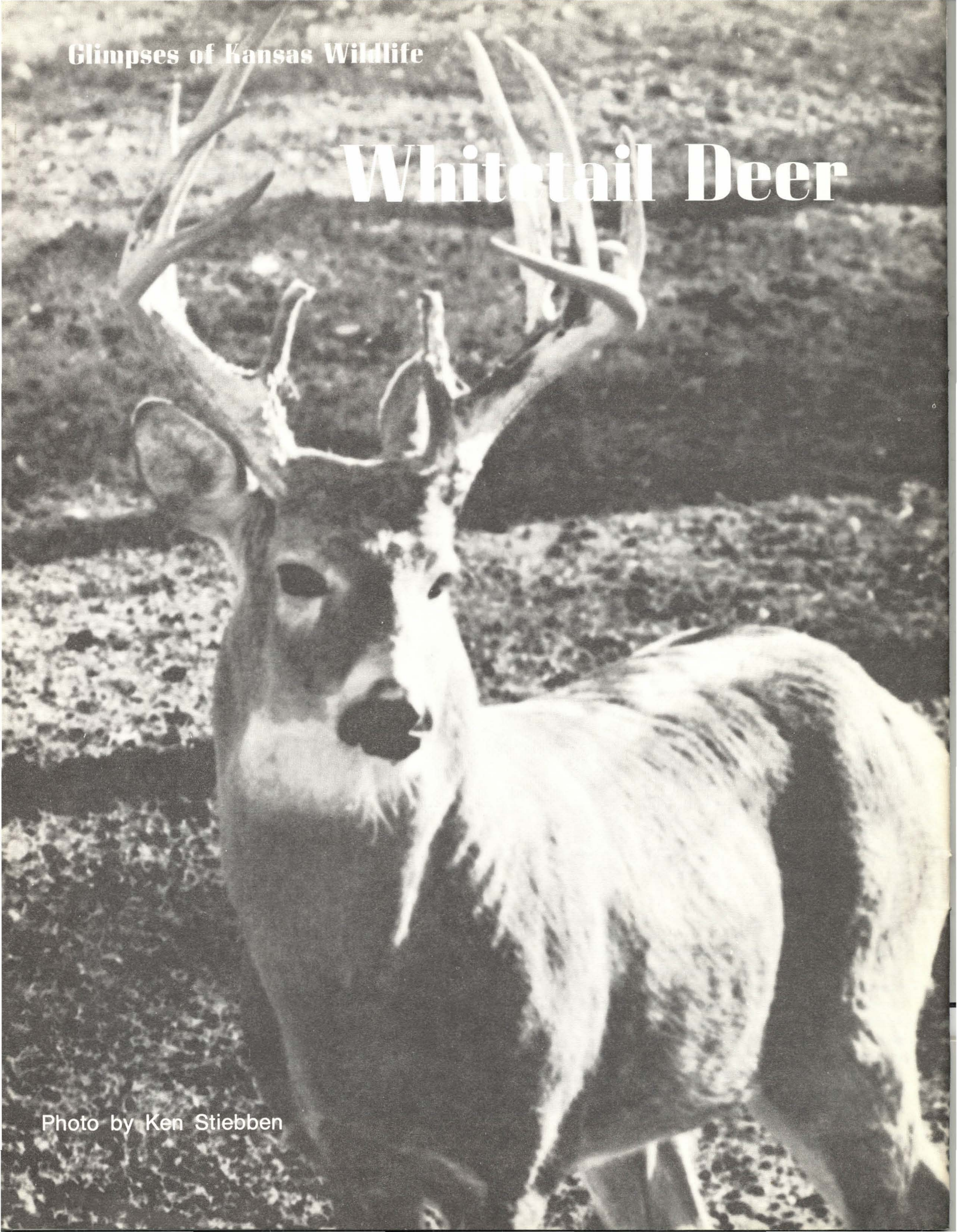
*Phasianus colchicus*—perhaps the name isn't so bad after all.



Glimpses of Kansas Wildlife

# Whitetail Deer

Photo by Ken Stiebben





By LEROY E. LYON

A flash of white and it disappears from sight. So it is with the white-tailed deer, the most plentiful big game animal in North America.

The whitetail is aptly named because of the white undersurface of its flag-like tail which is displayed as the graceful creature bounds off through the woods with tail held aloft. With the white hairs erected and the large, white "flag" waving back and forth from side to side, no one can mistake the distinctive trademark. When alarmed, one of the whitetail's first actions is to hoist the flag—an act which alerts the entire herd without a sound.

For some reason bucks generally do not raise their tails when they run.

About seven months after breeding, usually in late May and throughout June, fawns are born. Does having young for the first time usually bear only a single fawn; thereafter they have twins and occasionally triplets.

Some authorities believe the whitetail doe uses the white signal to guide her fawns from danger as they run after her.

Although the whitetail is well known, the most common misconception about this sleek animal is its size. The size of adult deer varies according to the quality and quantity of forage available to the herd throughout the entire year. Usually, however, the back of a full-grown whitetail is seldom higher than the waist of an average man (from 36 to 40 inches).

Whitetails prefer timbered areas for their homes and as a result are most numerous in the eastern two-thirds of the state. Some, however, are found in western counties. The whitetail's distribution is closely related to

wooded, brushy areas along watercourses but occasionally whitetails may be seen in grasslands with limited woody cover. Usually whitetails select the borders or edges of timbered areas rather than dense, uniform stands of trees.

Whitetails apparently prefer to stay close to where they were born. If a good food supply and plenty of cover is available, they tend to stay within an area ranging from one-half to one and one-half square miles. Some deer, particularly bucks during breeding season may cover a larger area.

Deer require from 10 to 12 pounds of food per day. Since they are browsing animals, they feed mainly on vegetable material—browse from the leaves, buds, twigs, and bark of woody plants. The whitetail also consumes a wide assortment of weedy plants, cultivated crops and certain kinds of fruits when available. In Kansas farm crops particularly corn, sorghum, winter wheat, alfalfa and soybeans, comprise the bulk of the year-round diet except in summer when green forbs become predominant.

Since Kansas is largely an agricultural state, whitetails in our state enjoy a high level of nutrition. Without a hunting season to control the expanding deer population, deer could become a major problem to agricultural interests. To prevent this and to stabilize the deer population, statewide hunting seasons, both firearms and archery, are being allowed each year to harvest surplus animals. By using this method of control, Kansas' deer population can be maintained within the economic limits imposed by our agricultural industry.

All whitetails shed hair twice each year. In the spring they wear a new coat which is reddish-brown in color. In autumn this hair is shed and replaced by a greyish-brown winter coat of two layers; an undercoat of soft hair and an overcoat of long, kinky hollow hair provides all-important air pockets which in turn gives excellent insulation during cold, snowy winter months.

Antlers, which are formed and shed each year, normally occur only in bucks. Growth of antlers usually starts

*Photo by Leonard Lee Rue.*





in April when the antler base, located on the skull, begins to enlarge. Growing antlers are enclosed in a plush-like covering of soft skin and fine hair commonly called "velvet."

A network of blood vessels in the velvet nourishes the antlers until they are fully formed. During spring and summer months bucks treat the sensitive antlers with care to prevent damage to the fast-growing antler tissue.

A buck usually does not grow antlers during his first year but has small knobs where future antlers will grow. At this stage he is called a "button" buck.

Full antler size is reached in August or September, shortly before breeding or "rutting" season. As breeding season approaches, the buck rubs the dried and itching velvet covering off by polishing the antlers against the trunks of trees and saplings. During the breeding season these hard, highly-polished antlers are used to defend territory against other bucks.

Sometime toward the end of the breeding season, usually from late December to mid-February, the antlers become loosened around the base and are shed. Fallen antlers do not last long since mice and other rodents gnaw them for their high mineral content.

A person cannot tell a buck's age by his antlers. Antler development is not an indication of age but rather an indicator of nutrition and the amount of food consumed. In the buck's second year, he will usually develop spikes—in this stage he is known as a "spike buck"—but such a buck feeding under ideal food conditions can skip the spike stage and go on to develop into a "rack" buck.

About seven months after breeding, usually in late May and throughout June, fawns are born. Does having young for the first time usually bear only a single fawn; thereafter she will have twins and occasionally triplets.

At birth each fawn weighs between four and seven pounds; bucks are usually slightly heavier. As soon as possible after birth the doe leads the fawns away from the place of birth to another place of concealment. Generally, but not always, twin fawns are bedded in separate locations. Spotted

fawns blend in well with the vegetation in which they are hidden.

Fawns are also protected for several days by a lack of scent and the doe stays away from the fawns as much as possible so she will not attract attention to the young by her scent. However, the doe remains somewhere nearby where she can observe danger or hear the fawns if they call to her.

Except for nursing periods fawns are relatively inactive for the first two weeks following birth. But, when three to four weeks of age, the fawns begin to follow the doe and start eating their first solid foods.

Full antler size on whitetail bucks, like the one here, is reached in August or September. During the breeding season, these hard, highly-polished antlers are used to defend territory against other bucks.

*Photo by Leonard Lee Rue.*





Glimpses of Kansas Wildlife

# Prairie Chicken

Photo by Ken Stiebben



By LEROY E. LYON

Of all birds native to Kansas, perhaps the most interesting is the prairie chicken, a game bird of open grasslands. The prairie chicken is a member of the grouse family and is often referred to as a pinnated grouse or prairie grouse.

There are now two species of prairie chickens in Kansas—the greater and the lesser. The major differences are size, coloration and voice.

In size, both resemble a short-tailed hen pheasant. The greater, as the name implies, is slightly larger. Males, on an average, weigh about two pounds, hens several ounces less.

In overall coloration, both species are mottled brown with black crossbarring over most of the body. However, the pattern of barring on the back feathers is different. The lesser is also paler in color. The breast and belly of both species are barred about evenly with brown and white.

Both also have characteristic "ear tufts" of pinnae located high on the sides of the neck which give them the commonly used name of pinnated grouse. The pinnae are tufts of stiff, wing-like feathers which can be raised and rotated upward or forward. Beneath each pinnae is a loose sac of bare, yellow-orange skin which is capable of great distention. These are called air sacs or tympani. The air sacs on the greater prairie chicken are bright orange in color while the lesser's air sacs are rosy red.

The greater prairie chicken is the species of most interest in Kansas since it is more numerous. Its range is restricted primarily to the Flint Hills region of Kansas.

The lesser occurs in small numbers and is found primarily in sandy areas of southwest Kansas.

Perhaps the most noticeable difference in the characteristics of the two species is the voice which is an essential part of the courtship performance. Unlike the low, booming notes produced by the greater prairie chicken, the lesser chicken produces a gobbling sound.

The courtship of the prairie chicken cock is a colorful and dramatic performance. Each spring, beginning in March and continuing until late May, males gather at dusk and dawn on "booming grounds" to perform their unique dancing ritual. This display, essentially a courtship activity designed to attract females for mating, usually begins shortly before sunrise and lasts about one and one-half hours. In the afternoon they arrive an hour or more before sunset and leave soon after sunset. Booming ground activity is most intense in the morning.

Each cock goes to a specific part of the booming ground which is his special territory: a 30- to 40-yard are for his solo performance. During the colorful ritual each cock attempts to defend his territory from adjacent neighbors.

When one bird trespasses on another's domain, a fight immediately follows. At most, only a few feathers are knocked out; they are seldom hurt in these skirmishes.

Interspersed with this fighting activity, a cock starts to stamp his feet up and down very rapidly for several seconds making a noise like the rapid "put-put" of a distant engine, sometimes pivoting as he stamps. While

stamping he erects his pinnae over his lowered head, droops his wings and spreads his tail in an upright fan. The neck begins to distend and the air sacs on the neck begin inflating like small oranges. Then the greater chicken makes a booming sound for which it is famed—aboom-boom-booommm—a weird sound which begins in the voice box but which is amplified by the air resonating in the air sacs. It is a three-note call, each note being a bit higher in pitch than the one before.

In the early part of the booming season, the largest number of birds visiting the booming grounds are males. Later in the season, as the tempo of the booming increases females may be observed courting with males or sitting around the perimeter of the booming area. Hens never take part in the dance and outwardly give little notice of their boyfriends' antics. Mating occurs on the booming ground.

The female begins nesting in April or early May. Areas selected for nesting are usually grass cover—pastures, hayfields, native grass areas—all are satisfactory.

The olive or tan-colored eggs are laid at a rate of almost one a day until the clutch of 11 or 12 is completed. Some nests have fewer eggs while others may have as many as 15 or 20. Incubation takes 23 to 24 days. Re-nesting occurs if the first nest is destroyed before or early in incubation. However, chickens seldom make a second nest after loss of the first nest late in incubation.

Adult roosters have no part in incubation or in rearing the youngsters.

Eight-to-ten week old broods begin joining together in flocks as early as the first of August. The hens leave the young to go through their annual molt.

During the spring and summer, prairie chickens feed heavily upon native range plants and insects. Waste grain from fields of sorghum, soybeans and corn is used heavily in winter.

The average life span of a prairie chicken is about one year although a few birds have been known to live longer. Age composition studies of prairie chicken flocks have shown there is an annual population turnover—replacement of old birds by young ones—of 60 percent or more. This occurs even if no hunting is allowed. Therefore, a limited hunting season for greater prairie chickens is set each fall to allow sportsmen to harvest some of the birds that would otherwise be lost to natural mortality.

Kansas is one of only five states having a greater prairie chicken hunting season and boasts the largest prairie chicken population of any state in the nation.

Prairie chicken management goes hand in hand with wise range and soil conservation management practices. When rangeland is managed wisely and moderately grazed, the best conditions prevail for prairie chickens.

Since good grass cover is a requirement for good prairie chicken reproduction, overgrazing and annual burning of large areas is as detrimental to the chicken populations as it is to grassland.

With cooperative efforts of all concerned there can be prairie chickens for future generations and the rangeland can continue to resound to the colorful, majestic booming ritual of one of our most interesting birds.



Glimpses of Kansas Wildlife

# Prairie Dog

Photo by Leonard Lee Rue



By **LEROY E. LYON**

He may bark and wag his tail but a dog he is not. So it is with the prairie dog, the heavy-bodied ground squirrel of the plains.

Belonging to the Sciuridae family which includes squirrels, marmots and woodchucks, the prairie dog was so named because of its series of barks which sounds much like a small noisy dog.



**Lyon**

The black-tailed prairie dog can best be described as a large rodent with a short, slender tail. Males weigh from two to three pounds while females are slightly smaller averaging about two pounds. Length of adults varies from 12 to 15½ inches. As its name indicates, the tip of the black-tailed prairie dog's tail is black.

The reddish-brown, natural-earth color of this short-legged chunky mammal is a highly effective camouflage against its natural enemies. Black-footed ferrets were the prairie dog's arch enemies until man reduced the ferrets to their present-day endangered status. Ferrets, rattlesnakes and constrictor-type snakes can easily enter a burrow in search of a meal while a badger, now the most feared enemy can dig the animals out. Owls, hawks, the golden eagle, coyotes, foxes, bobcats and domestic dogs are always a constant danger but can be avoided if a burrow is close at hand.

Community living best describes the life style of black-tailed prairie dogs. Gregarious by nature, they establish themselves in large social groups called towns. Such a dogtown is a scene of constant activity, enough to keep an observer entertained for hours.

A dogtown is by no means permanent. The town is established in the midst of an ample food supply but if food is depleted the entire colony must travel to better feeding grounds to establish a new town.

Prairie dog towns are easily recognized by the presence of circular dirt

mounds which have been built around the entrance tunnel to the prairie dog's underground home, more correctly called a burrow. Earth excavated from the burrow is used to form the mounds which are usually from one to three feet high and from three to ten feet in diameter. Without this mound around the entrance tunnel, water from heavy rains would pour into the burrow and either drive out or drown the resident.

Usually there is only one entrance to the prairie dog's home but an escape tunnel is usually built to help escape enemies.

The burrow is one of the most complex in nature—an intricate system of intersecting tunnels and chambers. The home is an elaborate affair compared to the abodes of some other mammals and has grass-lined bedrooms or nesting chambers, a listening post or guard room about three feet below the entrance, and quite often even a toilet room.

Although community minded, prairie dogs establish territorial rights in the town. Studies show that from two to 35 animals will form a coterie, or social group, and live happily together.

Prairie dogs are active during daylight hours but in hot weather are most active early in the morning and late in the afternoon. During winter months black-tailed prairie dogs do not hibernate although cold, snowy weather may cause them to hole up for a few days.

Prairie dogs mate from February through April. Young dogs are born naked and helpless about one month after mating. Only one litter is born per year and the litter size may vary from two to ten young.

Young dogs grow rapidly and when five weeks old their eyes open. When about seven weeks of age, the young are able to climb out of the burrow to view the outside world and nibble on green grass or forbs.

Prairie dogs do not live where the ground is soft and where grass grows tall. As a result, their range in Kansas is primarily restricted to short-grass and mid-grass prairies found in the western two-thirds of the state.

Primarily vegetarians, prairie dogs will also eat insects, particularly grasshoppers. On rare occasions they will eat meat, such as the burrowing owl or ground nesting birds. Prairie dogs have little need for water because their body requirements are met through the water content of their food.

Usually the prairie dog eats all vegetation around its burrow. Tall grass and forbs are not given a chance to grow within the boundaries of a town since the dogs rely on vision to locate predators.

A new colony trying to become established cannot succeed in an area where vegetation is tall and thick since a small number of dogs simply cannot keep up with lush plant growth. However, even prior to settlement, prairie dogs lived in long-grass areas of Kansas where bison cropped the grass short and trampled the soil until it was hard.

Later, after settlement, overgrazing by cattle similarly made a habitat favorable for the prairie dog. For this reason prairie dogs greatly increased in numbers after ranchers and their cattle appeared on the scene.

As ranchers watched "sod poodles" grow fat and grass grow thin, they reacted by opening warfare on the little animal which thrived on their carelessness. Poisoning programs were initiated since the rifle was of little benefit in the war against such a large rodent population. But, by taking advantage of the prairie dog's safety-in-numbers concept of town living which provided security against natural enemies, strychnine-treated grain and other poisons did their work well. Concentrated in towns, thousands, later millions, of prairie dogs died in a matter of months.

On the short-grass prairie the prairie dog is a most influential and beneficial citizen because he contributes, on a long-term basis, to enriching the soil thus providing a more abundant growth of forage for both domestic livestock and native wildlife. The dogs bring up subsoil from their burrows and spread it on the surface where it breaks down into soluble forms of plant food. Their burrows



conduct air underground and make oxygen available to microbial life and other small living things that contribute to the enrichment and mellowing of soils. Deep layers of the earth are loosened by the prairie dog and fertilized with deposits of vegetation, droppings, and topsoil.

In his book, "Mammals of Kansas," E. Raymond Hall writes: "Concerning this animal, as I recall in the Dakotas, the late Theodore Roosevelt once wrote of vast towns of prairie dogs that gradually and slowly moved across the plains. The air, and water with its contained solvents, that entered the ground enriched the soil and caused a much better growth of grass in the wake of the prairie dog town than there was in front of it."

No one denies that it is often necessary to control prairie dogs to prevent over population but too often prairie dog control is not just "control" but an all-out campaign of extermination.

Everything considered there's little reason to believe that the prairie dog is going anywhere but good-bye. There are still some rather sizeable dogtowns in western Kansas but we now have as many prairie dogs as we will ever have. From here the population of dogs will undoubtedly decline.

But the prairie's elaborate home-builder won't go alone. Other natives of the prairie will go with him since a dogtown is not reserved for prairie dogs alone but rather is a gathering place for other members of the grassland community. Burrowing owls are competent tunnelers in their own right but usually they will set up house-keeping in a ready-made burrow abandoned by a prairie dog family. The disappearance of the prairie dog would probably mean a greater reduction in the interesting little mouse-catching birds which now are only rarely seen.

Likewise, a large member of the weasel family, the black-footed ferret is dependent upon the prairie dog for survival. This beautiful little mustelid is apparently poised on the brink of extinction; as the prairie dog goes, so goes the lithe black-masked hunter that is rarely found away from dogtowns.

Thus a number of predators and many game and non-game species hang around the mound-shaped homes—proof that the black-tailed prairie dog is a vital link in the ecological chain of the living prairie. When poisons are spread to eliminate prairie dogs, the once thriving animal city, either directly or indirectly, becomes a place of death for other wildlife species.

Modern agriculture and control methods have cut the prairie dog population down to numbers that are no longer a real problem in most areas. Eleven years ago there may have been as much as 57,000 acres of prairie dog range in Kansas—quite a decline from the estimated 2½ million acres of dog range in the state in 1903.

In 1957, researcher Ronald E. Smith, author of the book, "Natural History of the Prairie Dog in Kansas," wrote that "this acreage is being reduced by more than one-fourth in 1957, and at this rate in ten years the prairie dog in Kansas will be a conversation piece. . . ."

Smith's prediction has not come to pass. Not quite. Not yet. May it never happen. It's enough to see the ferret become an endangered species and realize that in all probability we will lose this magnificent animal from the grassland community.

Losing the prairie dog would add insult to injury. For with the prairie dog's passing a vibrant, unique community will cease to exist.

May that day never come.



Photo by Ken Stiebben



**Glimpses of Kansas Wildlife**



**Coyote**

**Photo by Ken Stiebben**



By Bill Scott

**"D**ADDY, LOOK! Is that a coyote?"

The car's headlights had caught a small, dark doglike animal racing across the road. Then, as suddenly as it appeared, the phantom had been swallowed again by the blackness of the night.

What father and son had just glimpsed was *Canis latrans*, the coyote.

Probably no other animal has been so romantically interwoven with the old West, and at the same time, so eloquently cursed by farmers and ranchers.

A shy and usually nocturnal animal, the coyote has always been a fascinating subject for sportsmen. A bit shaggy and doglike, the coyote is a little smaller than a Collie, perhaps best resembling a small German Shepherd. The coyote has erect, pointed ears and a bushy-looking tail. Color varies from almost black to nearly white, but is usually gray. "Mini-coyotes" may weigh as little as 18 pounds, but the average weight is about 30 pounds and some coyotes weigh 40 pounds or more.

That person missed something who has never had the hair on the back of his head raise or felt little prickles dance up and down his spine at the howl of the coyote. But happily, with the immense popularity Westerns have enjoyed for years, more people know the sound of the crooning coyote than ever. A thrilling and eerie sound, it is a series of sharp barks or yips becoming increasingly higher in power, ending in a long squall that trails downward. Most commonly heard during the mating season in late February, March, and April,

coyotes also howl for pleasure as well as calling to other coyotes.

Gulliver's travels certainly have nothing on the coyote. Coyotes love to roam and truly live the nomadic life which they symbolize. Frequently a single coyote covers nearly half a county in its ramblings, since its normal home range is 25 to 30 miles in diameter. Only when feeding young does the coyote vary its pattern, usually staying within five miles of the den. The coyote can run 45 miles per hour for short distances and can swim well. With these kind of credentials, the coyote covers a lot of ground in a short time.

Setting up housekeeping for the coyote involves "something new, something borrowed, something blue," just like humans. Something borrowed is the unused den of a skunk or badger into which mama coyote moves. Something new is the litter of pups, ranging from two to 19, but averaging five to seven. Something blue may be a nearby farmer when he realizes the coyote has become a neighbor.

The prospective mother coyote looks for a south-facing den in any location that gives her a sense of security. Steep slopes or banks with or without brush, hills in open prairie fence rows, hollow logs, or old granaries may become the home of the family-to-be. Dens may also be found in bases of large trees, rockpiles, or caves. Steep railroad rights-of-way devoid of brush also are prime spots for coyote dens. Coyotes will dig their own dens if the soil is not too hard and enlarge the burrow of a skunk or badger if it is convenient.

Dens are fairly inconsistent in their construction and depth. Some go straight back in a bank while others go straight down two or three feet, then level off. Quite often coyote dens have "false leads," or branched dens. Dr. Gier, KSU biology professor and author of "Coyotes in Kansas," says:

"The length seems to depend to a large extent on the ease with which the earth can be removed. One den, dug out by Ed Coffey of Manhattan, had its opening on a steep slope of a sandy bank and extended horizontally and almost straight for nearly 30 feet.

This den had the nest near the end, and had two short side branches."

The den's location is changed rather frequently by the mother. Even when less than six weeks old, the pups are carted around in her mouth like a new groom getting chivareed in a wheelbarrow. One would expect lots of tracks, fur, and food accumulated around a den opening, but with a coyote, it is not so.

The young are usually born in late April or May after a gestation period of 58 to 63 days. They come out of the den for the first time at three weeks of age. The pups are weaned when about eight weeks old. Next come the hunting lessons often taught jointly by papa and mama. During the first excursions the pups are ecstatic clowns, tumbling over each other in the excitement of being the first to hunt. The parents are usually forbearing and make effective teachers.

In the cartoon show, "Wile E. Coyote" always gets the worst of it when he is once again "outfoxed" by the crafty Roadrunner. But that's not often true in real life. Coyotes are second to none in their cunning. They have to be to survive. Other animals, faced with the same dilemma, have gone the way of extinction. Coyotes will actually ignore the whizzing automobiles and patrol the highways at night, cleaning up road-killed birds and other small game. And they even have their own "hunting highways." These may be a series of cattle trails, roads and other open areas along which they can ambush game as their mate or pack drives it by them. This is carefully planned, and this runway is sometimes 10 miles long.

Another index of intelligence is an animal's willingness to cooperate with other animals in the attainment of a common goal. When brother coyotes are not nearby, a coyote is too smart to be snooty when food beckons. He'll go wherever the action is. A coyote will sometimes run with greyhounds on a hunt, for example. The coyote's ingenuity on the hunt often results in a lost meal for other critters, like the badger. A typical situation goes like this: The badger finds the burrow of a ground squirrel and starts to dig it



out. Coyote takes up his position at the exit. The ground squirrel panics at Badger's digging and bolts out the exit smack into Coyote. He marches off with the goodies, and what does Badger get for all his hard work? Nothing but frustration. In this case, the finder is the weeper!

**A final indicator of intelligence** is an animal's fondness for play. Coyotes are often observed playing with each other, with other animals, and with birds as well.

Because of their extreme cunning, however, coyotes frequently run into conflict with man. Hunters cuss the coyote for decreasing populations of game birds like pheasants and quail. Farmers often suffer severe losses in livestock, particularly calves and sheep, and in poultry like chickens and turkeys. All of these losses are usually blamed on marauding coyotes. But do these losses always show the misbehavior of a coyote, or is he sometimes blamed for what another animal has done?

**There are three ways** to determine the diet of any animal: direct observation; examining the animal's feces; or by analyzing stomach contents of dead animals. In "Winter Food of Kansas Coyotes," a study conducted by Dr. Otto W. Tiemeier, biology professor at Kansas State University, stomach contents were analyzed exclusively. He determined from this the daily, monthly and annual food consumption. Stomachs were studied for the six years 1948 to 1953.

Dr. Tiemeier's studies covered the most critical time of the year for the coyote as far as the food supply is concerned—December, January, February, and March. Stomachs from 1,250 coyotes were examined of which 379 were empty or contained only debris. This large number of empty stomachs was from trapped animals. Coyotes shot on a hunt, for example, would be more likely to have at least something in their stomachs.

**The study found** that during these months coyotes were almost strictly carnivorous—that is, almost every-

thing they ate was meat. More than 99.8 per cent of all the foods was composed of animal material. Rabbit was most frequently found, with 55.7 per cent. Carrion, or dead animals, was next with 25.4 per cent. Third was rodents like the field mouse, white-footed mouse, harvest mouse, and cotton rat 9.4 per cent. Fourth was chicken with 7.4 per cent; however, Dr. Tiemeier says:

"It appeared unlikely that an average of 7.4 per cent of the coyote's winter diet would consist of chickens that they had caught and killed since most chickens were penned during these months—Probably many of the chickens had died and were discarded where coyotes could find and eat them. Many—were undoubtedly disposed of in fields and pastures," Dr. Tiemeier concluded.

**Coyotes thus became** conditioned to take live chickens, and this encour-

Don't miss the KANSAS FISH & GAME Interview with three outstanding bow hunters in the November-December issue.

ages them to enter farmyards for food. Dr. Tiemeier continues:

"—it was quite clear—that food habits could be cultivated. It is, therefore, extremely important that chickens, lambs, pigs or calves that die should not be left where coyotes can get them."

And hunters swear the reason pheasant or quail hunting "ain't what it uster be" is because of the coyotes. Coyotes do eat pheasants, quail and prairie chickens, but these game birds comprised only 1.1 per cent by weight of the coyote's food in Dr. Tiemeier's study. This is an extremely small percentage by anyone's standards, and it

is highly likely that many of those game birds caught by a coyote were sick or injured. Coyotes are opportunists and are always looking for "easy pickin's." Game birds in good shape are enough to give any self-respecting coyote an ulcer, since healthy birds fly quickly and easily at a small sound. It's just not worth the effort for the average coyote to try to catch a "game" game bird. Of course, there are exceptions. One of the most comical sights in the wild is watching a coyote making a long, patient stalk, then rushing at his prey. When the bird explodes and wings off, the coyote can get the most disgusted look on his face. Watch a coyote try it once. He tries it—but he doesn't like it!

**Coyotes show an astonishing** versatility in their diet, a willingness to eat almost anything that is available. For that reason, during the spring, summer, and fall months coyotes are more rightly termed omnivorous. Included in their diet in smaller or larger amounts are a wide variety of foods such as watermelon, wild grape, hackberries, corn, osage orange "hedge apple," wheat, crayfish, lizards, snakes, skunks, sparrows, red-winged blackbirds, cow droppings and afterbirth, grasshoppers, crickets, June beetles, and even a few red-tailed hawks and crows!

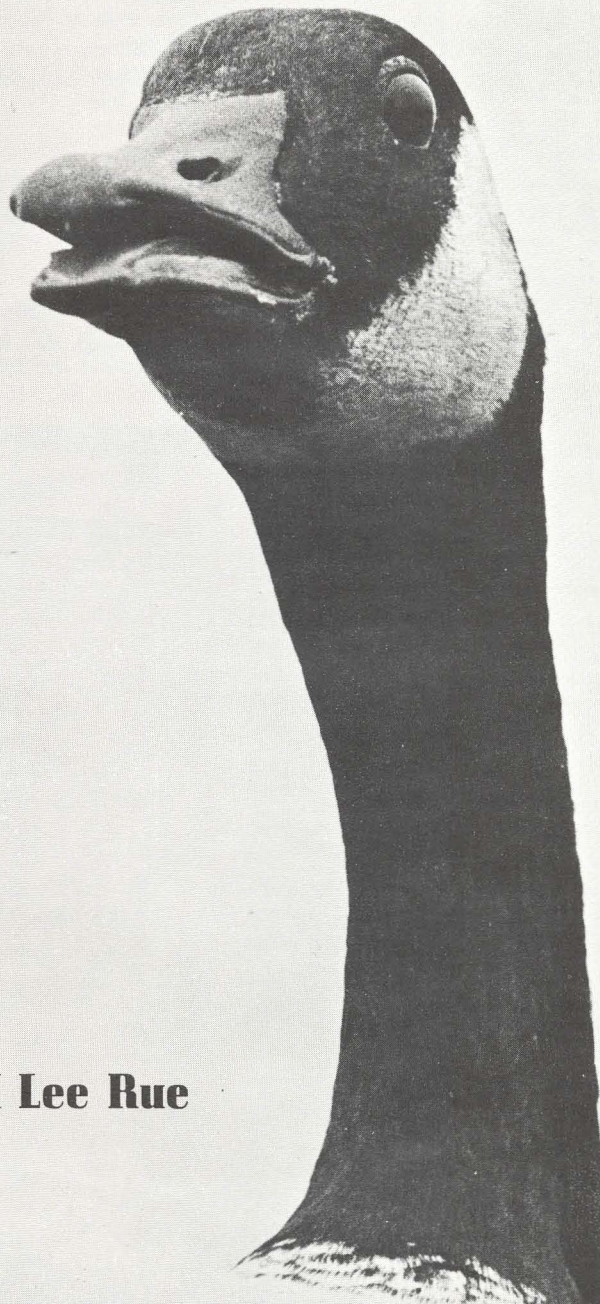
**It is hard to study** the coyote and not develop a certain fondness and admiration—grudging or otherwise—for him. His supersharp senses that enable him to survive against almost impossible odds, his instinct for play, his devotion to his family, and his crooning but eerie howl make him a creature that commands our respect.

And by the way—did you know that if you pronounce his name "kioot" (long "i" and "o") you are pronouncing it incorrectly? It is true, pardner. South of the border down Mexico way, they pronounce it "ki-o-tee," and this is the preferred pronunciation.

**In any event,** to the coyote: Long may his howl be heard across Kansas prairies.



# **Giant Canada Goose**



**Photo by Leonard Lee Rue**



## By Ross Harrison

The largest and felt by some to be the greatest of all geese on the North American Continent recently has been making Kansas one of its most popular wintering homes.

**The bird is the giant** Canada goose, *Branta canadensis maxima*. He's kind of hard to distinguish from his close relatives, the 20 or so other varieties of Canada geese which all bear the same *Branta canadensis* scientific name, but which have different variety names. About half of these 20 spend some of their time in Kansas. Again, he's kind of hard to distinguish from most of these, except for one thing—bulk!

The record giant Canada is 24 pounds heavy—three to six times as large as the smaller Canada varieties. In Kansas the largest giant Canada recorded weighed more than 18 pounds.

**But before further** describing the maxima, a quick check of his history will provide better insight to him. As late as 1962 the so-called giant Canada goose was considered non-existent in Kansas and the rest of North America. It is recorded that prior to the turn of this century there were thousands of giant Canadas with permanent homes in the Great Plains, Kansas included. These birds far outweighed their similar appearing Canada cousins which migrated past the giants far to the north for nesting, then back far to the south to spend the winter months. By 1950, however, the big Canadas were shot up and much of their waters were drained from their prairie homes. Most biologists considered them extinct.

**Then in 1962** a wildlife researcher, Harold Hanson of Illinois re-discovered the giant Canada in Minnesota. It was theorized that while the "wild" giant Canadas may have passed out of the picture, there were at least a few game breeders who kept remnants of the original stock for sale and trade.

The re-discovery of the big birds generated much excitement and demand for the giant Canada boomed.

Commercial game breeders, private interest groups and individuals, along with governmental agencies all wanted to re-establish the giant Canada. Massive game farm breeding programs found tiny flocks of the rare birds appearing all over midwestern United States and southern Canada.

The new giant Canadas found dozens of huge reservoirs which provided a fantastic new water resource and nesting facilities beyond compare. More reservoirs were being built each year. And bordering these impoundments were thousands of acres of crop land which could supply an almost endless store of the best goose food possible.

**The story of the giant** Canada's comeback in Kansas is nothing short of phenomenal. The central Flyway Council reported some 300 Canada geese wintering in Kansas in 1955. Hindsight has shown most of these were large Canadas with many being the maxima, or giant.

The 1971-72 wintering count showed upwards of 100,000 Canada geese wintering in the state, of which an estimated 30,000—count 'em, 30,000—were the large Canadas, again with many being maximas.

Together, the 20 some varieties of Canada geese have the same basic coloration, the grey body, black neck and head, with the white cheek patch wrapping around the bird's chin.

**The varieties** of Canada geese which spend some time in this state, according to Marvin Schwilling, waterfowl project leader for the Forestry, Fish and Game Commission, range from the slight 2½-pounders to the giant which has surpassed 18 pounds. At the heavy end of the scale, the giant is joined by another variety, *moffitti*. Schwilling points out:

"It is hard to talk strictly in terms of the giant Canada goose in Kansas, when another variety of the Canada goose, *moffitti*, is so similar. The two varieties are nearly the same color, they are found in the same locations and small *maximas* and large *moffittis* may be of equal weight."

Schwilling says there's no way to estimate the number of each of the two in Kansas, only the total of both.

Hanson, the man who re-discov-

ered the giant Canada and the world authority on their classification, claims that of the following features the *maxima* will possess the extreme, where the *moffitti* will have some or all of the traits, but in a lesser degree, while the features are seldom exhibited in smaller varieties of Canada geese.

**The traits include:** An adult weight of at least nine pounds; a long, rangy appearing frame and wider wingspread; habitation chiefly in the Great Plains in the U. S. and Canada; lighter coloration; and a slight hook-back to the ear of the white cheek patch.

A day in the life of the typical giant Canada will vary widely, depending on the time of year and, of course, age. Schwilling comments that juvenile *maximas*, like most teenage youth, have a sort of mixed up outlook on life. They are less aware of the perils in the world and they take more chances.

**Consequently, the** young of the year comprise most of the giants taken by hunters," said Schwilling.

Autumn will find large flocks of giant Canadas grazing in pastures and wheat fields of the Dakotas and southern Canada. Schwilling's observations have led him to believe that the grazing flocks are divided into not-too-distinct family units, consisting of the parents and anywhere from one to seven or eight young of the year. The family units, he says, will loosely stake out an area and guard it rather haphazardly against the other geese.

**Federal studies** have shown that while thousands of geese might graze a large field, they do no harm to the crop production. Schwilling says, however, if the cropland is extremely wet, geese have been known to "puddle" the soil and as it dries out the surface is left packed tight.

Also there is some minor concern by landowners that if the geese overgraze an area, spring winds might carry away more than the normal amount of soil. Most often this is not the case, though.

**As winter approaches,** the northern birds get that mysterious migration twitch. Usually in a one or two-day,



non-stop flight, they leave for southern states, not too much further south than Kansas and Oklahoma. More and more are stopping every year in Kansas because of the abundant reservoirs and ample winter wheat crops.

From about Thanksgiving through February, Kansas becomes the winter residence of more than 30,000 of the large Canadas. At the Cheyenne Bottoms and Kirwin Reservoir where more than 100 of the large geese are permanent residents at each site, the migrating flocks may build those numbers up to 6,000 birds.

The rest are found at Elk City, Kanopolis, Fall River and Cheney Reservoirs as well as more than 20 other areas.

Schwilling says the best time to view the giants in Kansas is before 9 a. m., when they are just waking up on their loafing areas and getting ready to disperse to the surrounding crop lands.

During the winter months, much of the aggressiveness and territorial feeding of the birds is lost. Still, there is somewhat of a pecking order, reports Schwilling, where the more mature males will guide the flock in and out of their loafing and feeding areas.

Smaller varieties of Canada geese will migrate much further to the south to winter in the milder temperatures. But the heavy goose down of the giant Canada seldom finds him suffering from the cold Kansas winter.

As the winter progresses, Schwilling says the birds will turn to grain, such as corn and maize, as a source of "hot" food. The hot foods offer more protein and carbohydrates to better heat their bodies.

Often as the geese fly from loafing to feeding areas, as soon as they touch down, they tuck their feet up under their soft feathers for insulation. They'll eat an area out around them as long as their neck reaches, then briskly waddle to another spot and do the same thing.

It should make some females happy to know women's liberation has a big influence in the life of the giant Canada. Although the geese mate for life, the initial selection of the mate is made by the fairer sex, according to Schwilling. Just before mating in

February or March, the geese migrate back to their summer homes in the northern plains states and southern Canada.

"It's not known for sure why, or on what basis they make their selections, but the female runs the mating game. I've watched the head-bobbing affair of the males as they taunt and pull feathers in tussles with other males," Schwilling describes. He said when the act is over, one of the males is chosen by the female.

The female, however, gets stuck with most of the nest building activities. There's the natural tendency to secure a nesting spot where it would be hard for predators to find. Often, the nests will appear on high ground so the parents can view the area for approaching trouble. Or, it may be very well hidden along the water's edge. There are even cases where giant Canadas have taken over abandoned owl and hawk nests or just built a nest in the fork of a tree.

At any rate, the male is always near the female while she's on the nest.

"Believe it!" states Schwilling. "The giant Canada goose is one bird that can really protect its home." Schwilling said he has read of successful attempts by coyotes to raid giant Canada nests while the adults were present, but on the smaller egg-eaters, such as raccoons, opossums and crows, the giant is a feathered fury.

Their main attack is performed by gripping the foe with their beaks, then whaling the tar out of them with their extremely powerful wings.

In the five to six-week nesting period, the female will lay an average of six to eight eggs in the first two

weeks, then incubate them for about four more weeks until they hatch. During this period the pair will fly out in the morning and afternoon to graze. Each time she takes special care to cover her clutch with feathers and the lining of the nest.

If the parents-to-be are unlucky, a skunk or other egg-eater will find the nest and devour the eggs before the geese return. If the mother was in the egg laying stage, she generally will renege. If she was into the incubation period, she probably will wait until next year to raise a family.

If the pair are lucky, a brood of ugly appearing goslings will peck their way out of the tough shells sometime in mid to late April.

Until the young can fly in mid-August, the devoted parents guide the young around a small world. In the water the fast-growing goslings will find small forms of aquatic plant and animal life to nourish their bodies. There also, the young will find turtles and other predators, waiting to help keep the goose population trimmed.

But some of the young will always survive the perils of nature. When Thanksgiving comes many will come down to Kansas for the winter and either take up permanent residence or wing it back north in the spring with some passing flock to the Dakotas, or southern Canada to raise their own families.

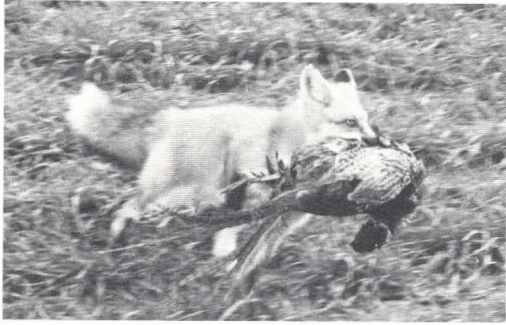
Wherever they go, chances are good they'll stop by Kansas again, for this state is quickly becoming recognized as one of the most richly furnished winter homes for the largest goose of them all.

Fast growing, but vulnerable, giant Canada goslings are never far from their protective parents.

Ken Stiebben

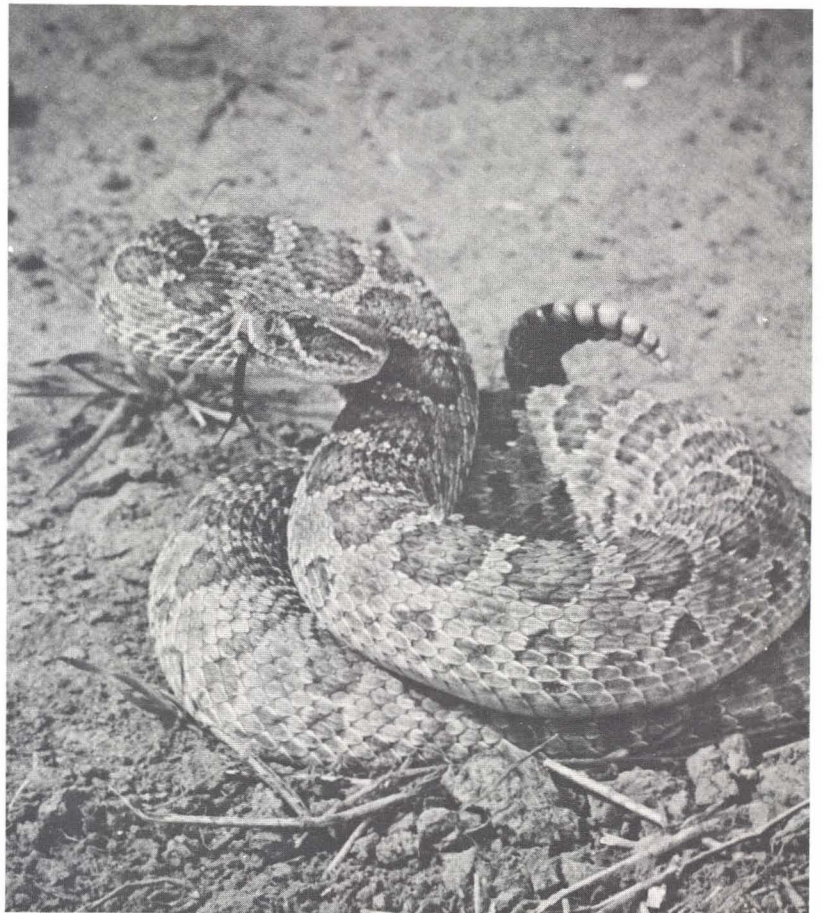
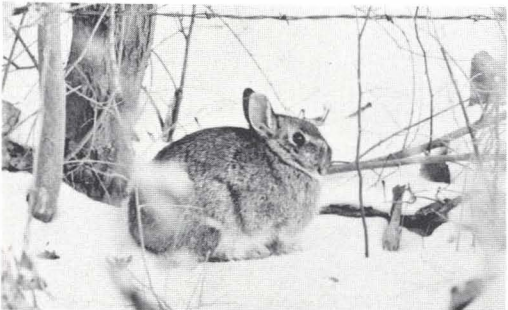






WILDLIFE

# *Glances*



Prairie rattlesnake by Ken Stiebben

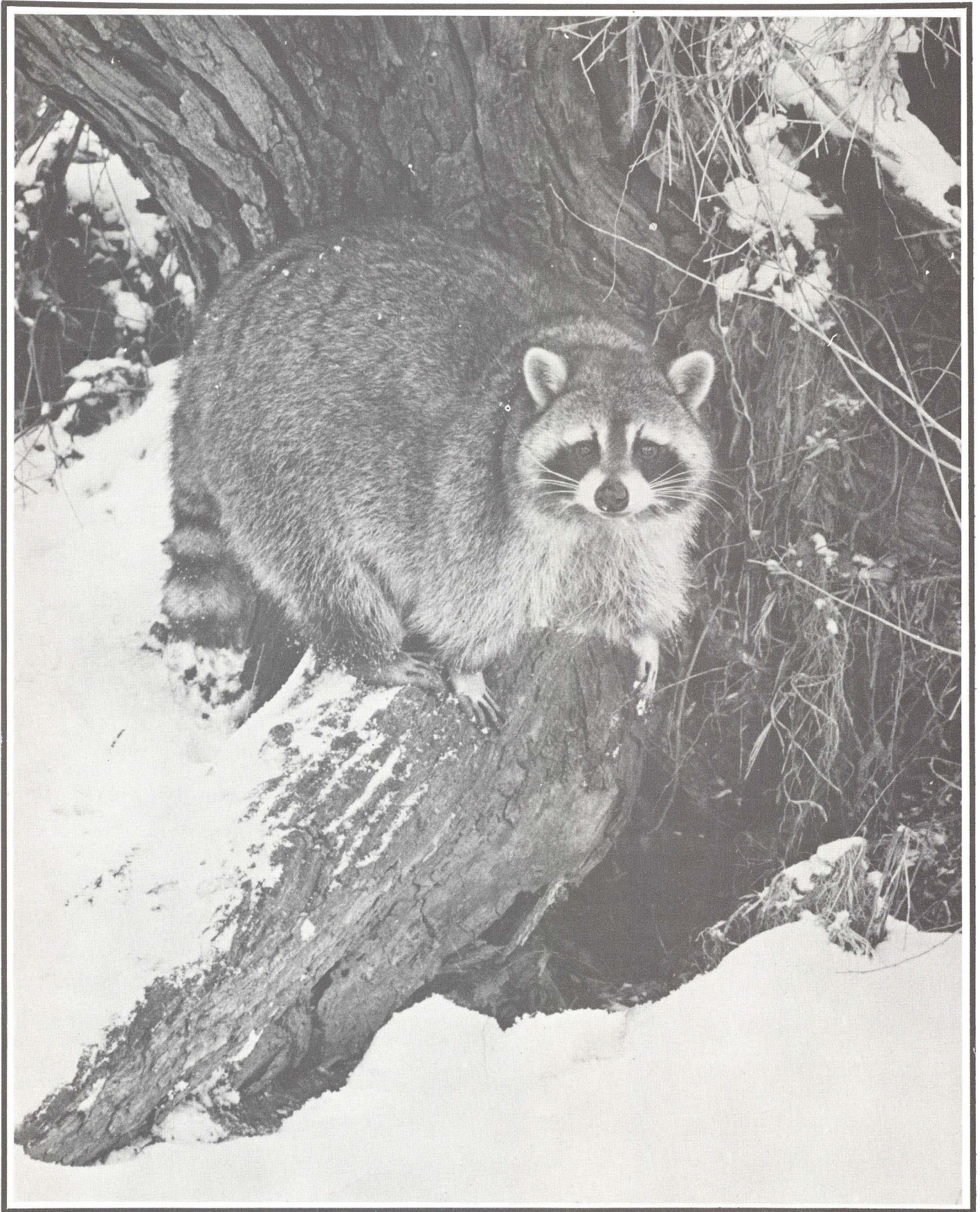
Red fox by Vic McLeran

Coyote by Vic McLeran

Fox squirrel by Ken Stiebben

Cottontail by Ken Stiebben





Raccoon by Ken Stiebben

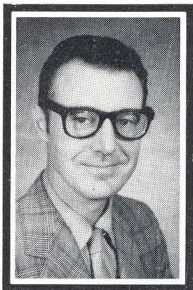


# The Opossum

## Glimpses of Kansas Wildlife

By Paul Bocquin, Staff Writer

**H**IGH FUR prices this winter have brought out a rash of Kansas hunters and trappers seeking raccoon, beaver, muskrat, coyote, you name it. Even the "lowly" opossum has become a coveted prize with his hide going for \$1.50 when in top shape, compared to when it was about 55 cents two years ago.



Bocquin

But, it's probably a mistake to refer to the possum as lowly. If the truth be known, the possum probably is one of the best adapted creatures on this continent. He's the only marsupial, like his Australian cousins, the kangaroo and wombat, in this country, and he has made a good place to live all the way from the Caribbean up into Canada. Though winter might freeze off his rat-like tail and make his ears look like he is a professional prize fighter, the possum hangs on in areas where most other mammals just can't adapt.

In Kansas, possums are more common in the eastern part of the state, according to the *Handbook of Mammals of Kansas* by E. Raymond Hall, Kansas University. Hall documents the powers of adaptation of this pointed- and pink-nosed furbearer, stating that he can hole up in burrows dug by other animals, in rock walls, hollow trees or fallen logs, in tangles of dense vegetation, or under the porch of your house.

Opossums have benefited by us humans. Some zoologists contend there

were no possums in western Kansas until settlers brought in more trees and shrubs for his favored habitat. Their numbers have spread and their body condition has prospered by making use of our trash cans around rural and suburban areas and occasional use of a chicken or pig feeder. They flourish on livestock carrion rarely being bold enough to take a live chicken as some would have you believe.

One reason possums seldom take poultry and such is they just aren't equipped for it. They have a mouth full of sharp teeth, but they are slow on their feet and rather dim witted of mind. Actually, the possum has been on this continent longer than most other mammals and he has changed little over the years. Like most scavengers, he's an opportunist and would rather not put up with a fight, but takes life easy and his meals as he finds them.

A study in Douglas County, says Hall's book, showed 60 possum bellies contained 42 percent insects, 41 percent mammals, 3 percent birds and 9 percent fruit. The remaining five percent was made up of lizards, a snake, a frog, crayfish, snails and seeds. Most of the mammal and bird items probably were carrion.

The adage that the fattest possums can be found around rural or suburban homes, and the garbage associated with them, is indeed true.

Playing possum or faking death may be resorted to if the creature is attacked or roughly handled when captured. But anyone who has caught a mature male by the tail and had him

latch on to a finger knows the possum is always the best actor.

Opossums are prolific, with some mothers having litters of 20 or more, too many to successfully raise. They breed almost year around in Kansas except for a few months in winter. Like his Aussie cousins, the pouched mammals, young possums are exceptionally immature at birth, born only days after conception.

At birth a young opossum weighs about 1/10,000 as much as the mother instead of the 1/18 as in some higher mammals. Immediately after birth, the tiny youngster attaches itself to a teat for 70 days until he begins to look like a real possum.

Adult opossums usually are gray, but some are nearly black due to the dark guard hairs that keep them warm in winter. Sometimes, cinnamon-colored coats are seen and rarely a white albino possum has surprised a trapper.

Possums have 18 incisors, or front teeth, which is more than any other mammal in Kansas. Their tail is termed "prehensile" being strong enough to support them hanging from a branch. The very adept climbers have grasping paws with first toe of the back feet separated for a strong gripping.

Those who know a lot about the ways of nature and wildlife include the opossum with three other animals in saying with some degree of assuredness—"If habitat conditions ever get so bad that wildlife borders on extinction, we'll still see plenty of crows, rats, coyotes and possums."





Opossum by Leonard Lee Rue