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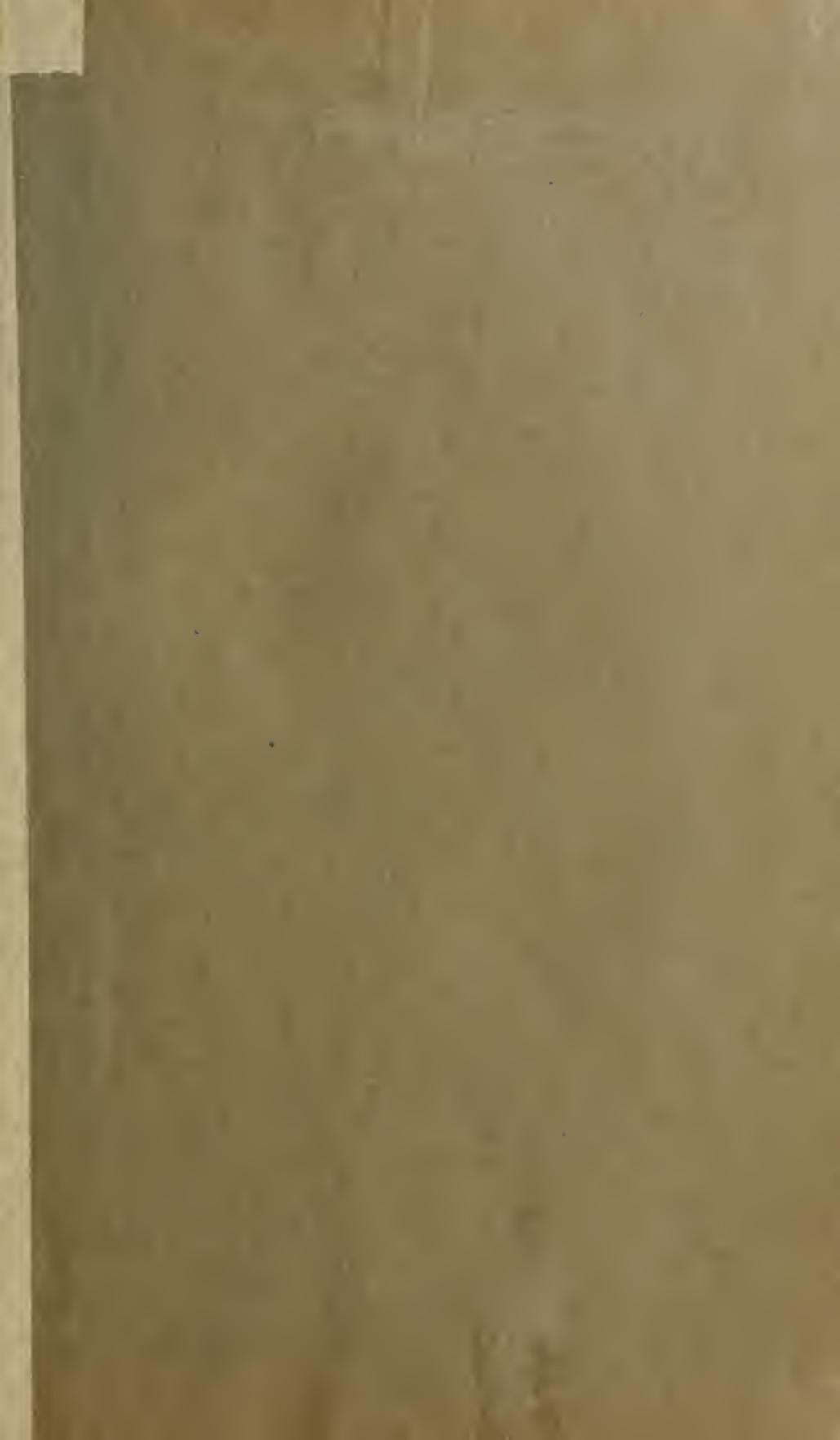
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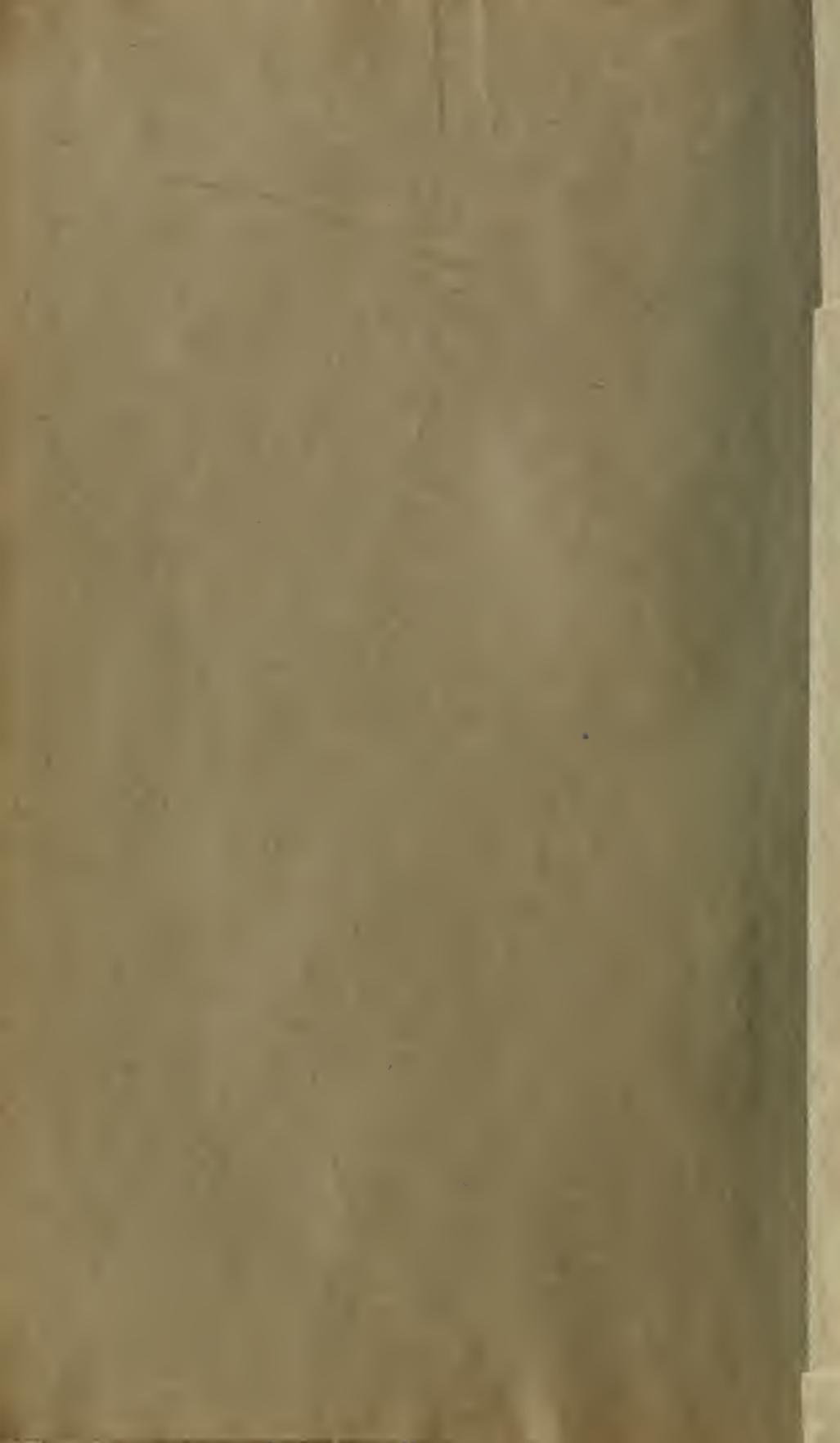
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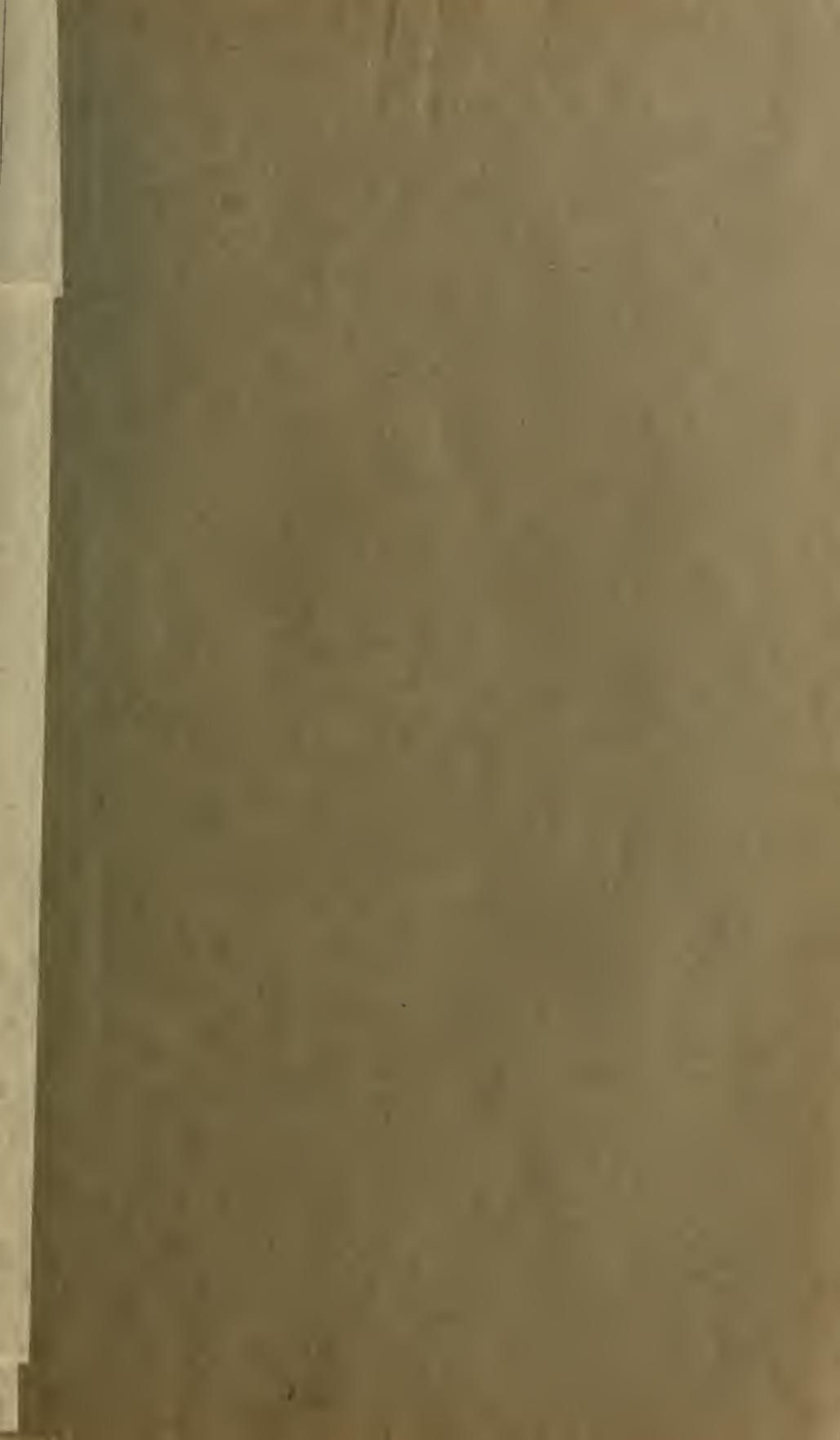
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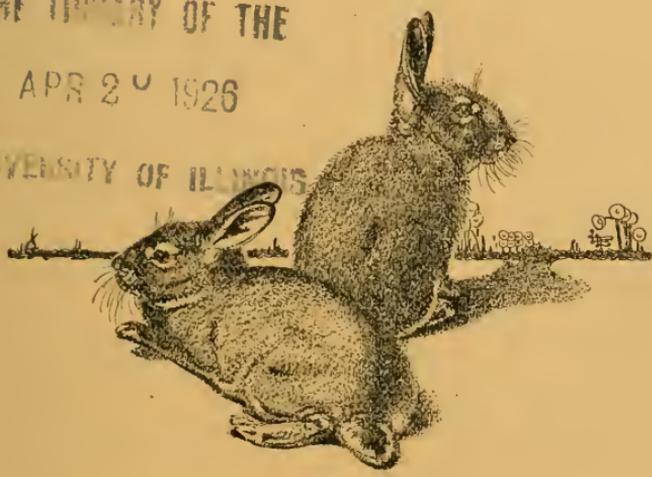


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MAMMALS OF THE CHICAGO AREA

BY
COLIN C. SANBORN
ASSISTANT, DIVISION OF MAMMALS

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ZOOLOGY
LEAFLET 8

FIELD MUSEUM OF NATURAL HISTORY
CHICAGO
1925

The Zoological Leaflets of Field Museum are devoted to brief, non-technical accounts of the history, classification, distribution and life habits of animals, with especial reference to subjects shown in the Museum's exhibits.

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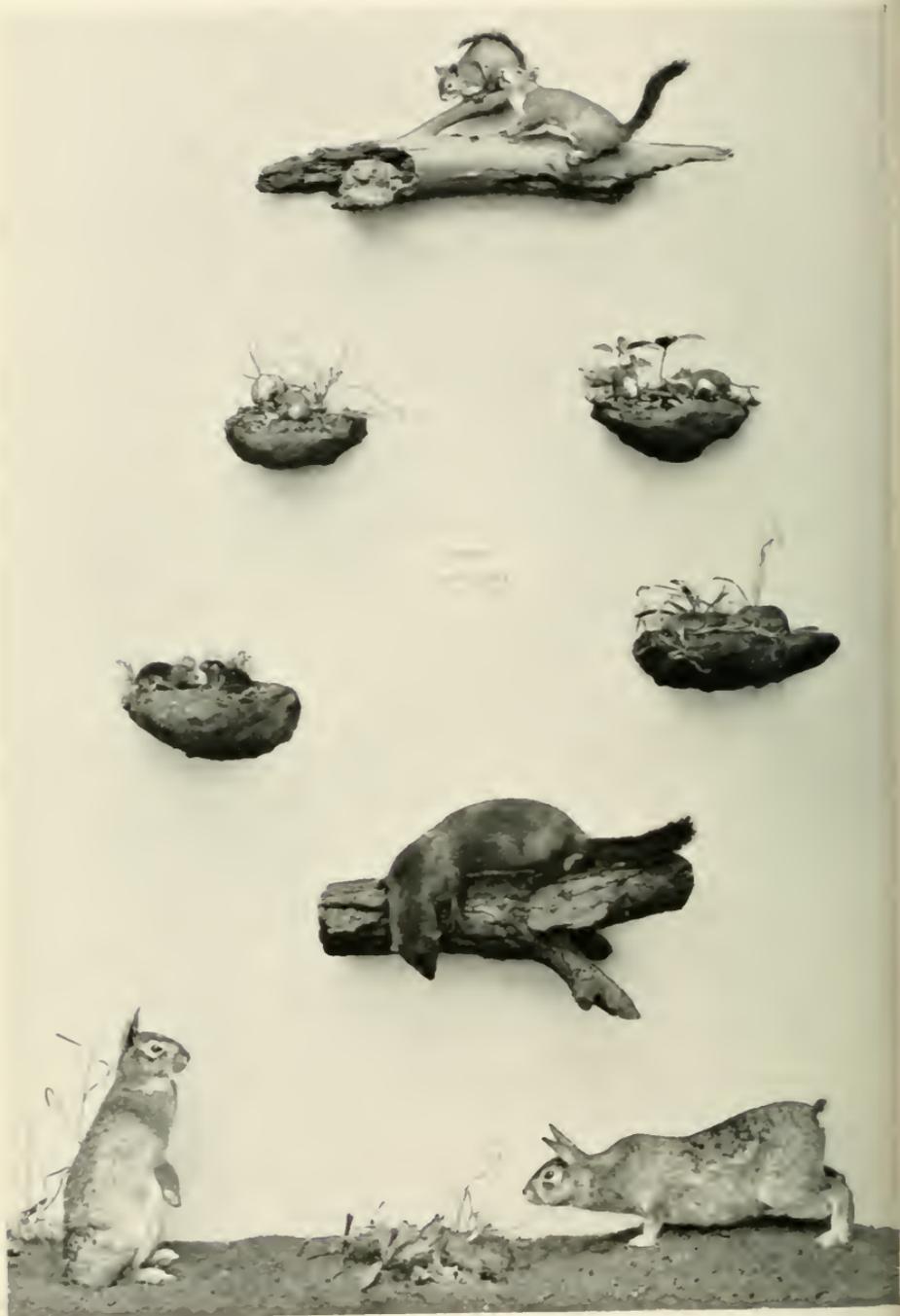
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MAMMALS OF THE CHICAGO AREA.
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No. 8

FIELD MUSEUM OF NATURAL HISTORY

DEPARTMENT OF ZOOLOGY

CHICAGO, 1925

LEAFLET

NUMBER 8

Mammals of the Chicago Area

The "Chicago Area" is, for convenience, regarded as covering all territory within fifty miles of the center of the city of Chicago. Therefore, it includes parts of three states, reaching just beyond the southern border of Wisconsin on the north and extending southward to the Dune Region and the whole southern end of Lake Michigan in Indiana. The pioneer student of mammals in this area was Robert Kennicott, whose list of the mammals of Cook County, Illinois, published in 1855, is still the most important paper devoted exclusively to the area. Since his time, scattered observations have been made, resulting in considerable additions to knowledge of the subject, but no thorough study has been carried out. The present paper is intended to summarize existing knowledge and to assist and stimulate local naturalists who may desire to pursue the subject.

The study of mammals is more difficult and not so easily entered into as the study of birds. Most mammals are nocturnal and the diurnal ones, in the majority of cases, are shy and elusive. The different forms to be met with in one region are very limited, about thirty-five in the Chicago Area as compared to two hundred and seventy birds occurring there. Many identifications depend largely upon dental or cranial characters and require time and work in preparing the skull for study and, in many cases, the use of a high powered lens on the smaller skulls, troubles not met in amateur bird study. For one outside a scientific insti-

tution, the life histories and photography of mammals might be the easiest and most interesting branches of the study. A large percentage of the work must be done with captive animals, but most animals are easily tamed and make interesting pets.

Of the fifty-three species of mammals formerly living in northern Illinois and Indiana, fourteen have entirely disappeared, ten are now very rare, and the rest are waging a losing battle with so-called civilization. Many of the larger ones disappeared from this section over a hundred years ago and, today, only a few scattered bones are left to show that elk, deer, buffalo and bear once occurred here. Wolves, cougars, lynx, foxes and other predatory animals were



Black Bear

soon driven out. These were quickly followed by the valuable fur-bearers, such as the beaver, marten, badger, and otter. While some fur-bearers of value are left in small numbers, the majority of mammals here now are small rodents of more harm than benefit to man. The two species that thrive best are the unwelcome foreigners, the House Rat and House Mouse. The next quarter century will undoubtedly see the ranks of the rabbit, muskrat, skunk, coon and mink greatly thinned, if not wiped out entirely. The thirty-nine species living here, today, represent six of the thirteen orders found in North America. These are the Rodentia (gnawers), Lagomorpha (rabbits), Carnivora (flesh-eaters), Insectivora (shrews and moles), Chiroptera (bats), and Marsupialia (opossums). These in turn are divided into superfamilies, families, subfamilies, genera, subgenera, species and subspecies.

The status of our mammal fauna, at present, is indicated by the following lists:

Mammals now Living in the Area.

1. Woodchuck.....*Marmota monax*
2. Striped Gopher.....*Citellus tridecemlineatus*
3. Gray Gopher.....*Citellus franklini*
4. Gray Chipmunk.....*Tamias striatus griseus*
5. Red Squirrel.....*Sciurus hudsonicus loquax*
6. Gray Squirrel.....*Sciurus carolinensis leucotis*
7. Fox Squirrel.....*Sciurus niger rufiventer*
8. Flying Squirrel.....*Glaucomys volans*
9. Northern White-footed Mouse.....*Peromyscus leucopus noveboracensis*
10. Prairie White-footed Mouse.....*Peromyscus maniculatus bairdi*
11. Common Meadow Mouse....*Microtus pennsylvanicus*
12. Prairie Meadow Mouse....*Microtus ochrogaster*
13. Pine Mouse.....*Pitymys pinetorum scalopsoides*
14. Muskrat.....*Ondatra zibethica*
15. House Rat.....*Rattus norvegicus*
16. House Mouse.....*Mus musculus*
17. Hudson Bay Jumping Mouse.....*Zapus hudsonius*
18. Mearns's Cotton-tail Rabbit.....*Sylvilagus floridanus mearnsi*
19. Raccoon.....*Procyon lotor*
20. Bonaparte's Weasel.....*Mustela cicognanii*
21. New York Weasel.....*Mustela noveboracensis*
22. Least Weasel.....*Mustela allegheniensis*
23. Mink.....*Mustela vison mink*
24. Skunk.....*Mephitis hudsonica*
25. Coyote.....*Canis latrans*
26. Red Fox.....*Vulpes fulva*
27. Prairie Mole.....*Scalopus aquaticus machrinus*
28. Star-nosed Mole.....*Condylura cristata*
29. Long-tailed Shrew.....*Sorex cinereus*
30. Short-tailed Shrew.....*Blarina brevicauda*
31. Small Short-tailed Shrew...*Cryptotis parva*
32. Little Brown Bat.....*Myotis lucifugus*
33. Say's Bat.....*Myotis subulatus*
34. Silver-haired Bat.....*Lasionycteris noctivagans*
35. Brown Bat.....*Eptesicus fuscus*
36. Red Bat.....*Nycteris borealis*
37. Hoary Bat.....*Nycteris cinerea*
38. Rafinesque's Bat.....*Nycticeius humeralis*
39. Virginia Opossum.....*Didelphis virginiana*

Mammals Extirpated within Historic Times.

1. Virginia Deer.....*Odocoileus virginianus*
2. American Elk.....*Cervus canadensis*

3. American Bison.....*Bison bison*
4. Beaver.....*Castor canadensis*
5. Eastern Cougar.....*Felis cougar*
6. Canada Lynx.....*Lynx canadensis*
7. Bobcat.....*Lynx rufus*
8. Gray Fox.....*Urocyon cinereoargenteus*
9. Timber Wolf.....*Canis nubilus*
10. Otter.....*Lutra canadensis*
11. American Badger.....*Taxidea taxus*
12. Marten.....*Mustela americana*
13. Fisher.....*Mustela pennanti*
14. Black Bear.....*Ursus americanus*

The order of rodents (*Rodentia*) is well represented and includes the woodchucks, squirrels, rats and mice, all gnawers. Members of this order have two upper and two lower incisors with a large gap between them and the cheek teeth. They are, for the most part, vegetable feeders, meat forming a very small percentage of their diet, and are all harmful to agriculture. Among them are found subterranean, terrestrial, aquatic and arboreal mammals.

The Flying Squirrel is more common in this area than is commonly supposed, as it is nocturnal and rarely ventures forth by day except occasionally in very cloudy weather. It lives in old woodpecker holes and often under the eaves or in the attics of houses. It is very sociable and sometimes as many as twenty will live peaceably together in one large hollow. The strong, furred membrane on each side, between the front and hind legs, enables it to glide or sail from the top of one tree to the foot of another which it then ascends and sails to the next one. The food of this squirrel, much like that of other squirrels, consists of nuts, seeds, insects and, sometimes, eggs and even young birds. From four to





MAMMALS OF THE CHICAGO AREA.
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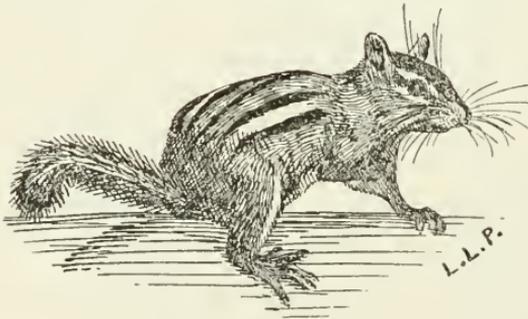
six young are brought forth in April and are said to make very tame and docile pets.

Of the three true squirrels found here, the Northern Gray is perhaps the most common, having taken man into his confidence more than his cousins, the Red and the Fox Squirrels. **Gray Squirrels** are common in the parks and suburbs about Chicago and, as they have not been molested, have become very tame. In the woods, however, especially during the hunting season, they are quite shy and can dodge around a tree and disappear in a most surprising manner. They live chiefly upon nuts and seeds of trees, but occasionally eat small fruits and beetles and their larvae. In the spring they damage maple trees by girdling the branches and drinking the sap. Birds' nests also suffer from them. In the woods, they either live in hollow trees or build a large nest of branches, leaves and bark or, with the same material, roof over an old crow's nest. In the suburbs, they often get under the eaves of houses and into the walls, where they become a great nuisance, especially early in the morning, as they are very noisy. There are generally two litters a year, one in April and one in September, of from two to five young.

The **Fox Squirrel** is not so common as the Gray, and is found farther away from towns. This squirrel does not live in colonies. Each pair prefers its own particular wood, and keeps all others out. Hollow trees are their homes, although they do build nests of sticks and leaves for summer use. Like the Gray Squirrel, they do not store food in any one place but bury nuts and acorns singly for winter use. Even under deep snow, they find at least a certain part of the nuts previously buried. Two litters of from two to four young are born each year and, when they are old enough, they are driven out to fare for themselves.

The **Red Squirrels** are smaller than the other squirrels that occur here, and are most common in the Dune Region. Like other tree squirrels, they live mainly in woodpecker holes and hollow trees, but they have occasionally been noticed occupying holes in the ground. They lay up large winter supplies of nuts, seeds and corn when it can be found, for while they do not mind the coldest weather, they prefer to stay in on cloudy and stormy days. They are particularly fond of pine seeds, which accounts for their abundance in the Dunes. During the summer, all the wild fruits of the woods are on their menu, to which they add insects, mushrooms, young birds and eggs. The young, born in April, number four to five and, sometimes, even six.

A member of the squirrel family that lives mainly on the ground and about stone walls and brush heaps, is the **Gray Striped Chipmunk**. Being about ten inches long, of a gray brown color, with two or three stripes on the back, and a slightly bushy tail, it is easily recognized as it darts under a brush pile or



into its hole, uttering a sharp series of whistled alarm notes. It is only seen from April to the last of October, for during the winter it hibernates in its burrow several feet under ground. In the summer, it is kept busy collecting a supply of nuts, seeds and grain for meals when it wakes on warm days during the winter. Its burrow runs down a foot or two from the opening and then along and upward to the nest chamber, with perhaps a

storehouse or two along the way. There is a back entrance but it is always several rods from the other. The dirt is taken out in the cheek pouches and is deposited at a considerable distance from the entrances, all possible care being taken to conceal them. These entrances are just large enough to admit the animal, but the burrow becomes larger inside. Besides the stores collected for winter use, the Chipmunk eats meat, when it can be found, in the form of young birds, mice or snakes. It damages truck gardens, eating all kinds of berries and the tendrils of such things as peas, beans and cucumbers. In spite of all its faults, it is a cheery, active, little creature to have about, and, like the squirrels, it is easily tamed.

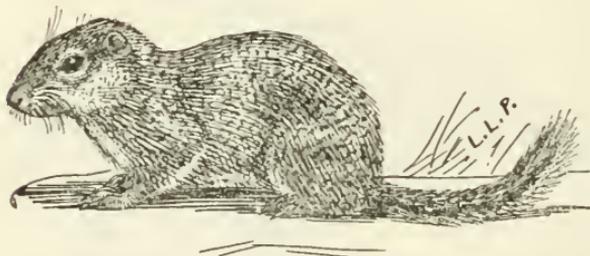
Another ground living species that hibernates during the winter, is the **Striped Gopher**. It prefers the more open country, while the Chipmunk prefers the



more wooded areas. Appearing about the first of April, it may be seen until late in October when it turns in for its long winter sleep. Gophers are larger and heavier animals than Chipmunks and the ears are smaller and the tails not so bushy. They have six buffy-white stripes on the back, between which are brown stripes with pale dots. Their burrows are much alike, a long tunnel with store-rooms and a living room or nest. They pass the winter and bring forth the young in these burrows. The young arrive in May

or June and average six to seven, although ten have been found. It is almost three weeks before any hair appears on them, and they stay with the female until late in the summer. Under such circumstances it is only possible to raise one litter a year. Before the young are born, and during the time they are with the mother, the male leaves home and shifts for himself as best he can, digging a summer home. Their food consists partly of beetles, grasshoppers, caterpillars and weed seeds, but, unfortunately, they have a fondness for grain and do a great deal of damage to crops. They dig up the seed as soon as it is planted, eat the young shoots and, later, the ripened grain. Working during the day, they are ever on the alert, sitting up to look about for danger and, in doing so, seem to stretch themselves to almost twice their natural length.

A western species, whose range just reaches this area, is the **Franklin's Ground Squirrel** or **Gray Gopher**. It is chiefly grayish in color, the top of the head being



blackish and the tail gray. This gopher is by no means common and is only locally distributed.

Restless and wandering, it appears unexpectedly in a locality where it may stay all summer or only for a few weeks. Its burrows are deeper, and it appears a little later in the spring than the preceding species, but its other habits are practically the same. Both these gophers cause no little damage to golf courses when they decide to dig their burrows in a fairway or putting-green. It often takes several weeks before they can be discouraged or all caught in traps.

Each year one of our mammals receives much publicity of a doubtful character. This is the **Woodchuck** or **Groundhog** that is supposed to waken the second of each February and come out for a look at the weather at noon. It is doubtful if the Woodchuck realizes the great responsibility placed upon it. However, after its



long winter sleep it does come out of its hole late in March when it is much warmer. Its burrows in this region are in some small clump of woods or ravine, easily accessible to a pasture or farmer's garden. During the summer, early in the morning and late in the afternoon, it comes out to feed on the clover and alfalfa or on almost any of the vegetables of the garden. The Woodchuck does not store food for winter, so he must put on a good layer of fat before the first of October or whenever the first heavy frosts come. The four to six young are born early in May, but do not get their first look at the world for some four or five weeks later. When old enough to care for themselves, they leave the home burrow and find another home in some other locality. The Woodchuck seems to be a heavy, lazy animal, but, when cornered, can put up a surprisingly good fight.

Although the **House Mouse** and the **House** or **Norway Rat** have been in America since the time of the first settlers, they have never made good citizens. The House Mouse came originally from southern Asia, and the Rat from Europe, but long ago they attached themselves to man and have accompanied him on all his travels, until, today, they are found in all parts of the

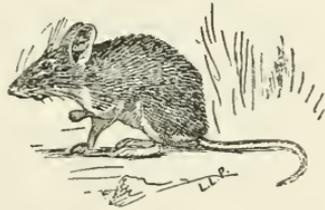
world, not only in the cities where they are in greatest numbers, but also in many out-of-the-way places far removed from civilization. They are more prolific than wild mice and reach maturity at an earlier age. The House Mouse raises about five litters a year of from five to nine young, and the House Rat four to six litters of from six to twenty young. Both are very destructive in their search for food, and the House Rat is known to carry fleas that are infected with Bubonic Plague germs. One cannot be too careful in ridding the house of the first ones that appear, for, like the House Fly, two mean a small army in a very short time. Guillotine traps and also cage traps, when covered or hidden, are two of the best traps for catching them. Rats, like other vermin, increase under unsanitary conditions, and the more food they get, the oftener they breed and the more young they have in each litter. Therefore, food should be kept where they cannot reach it and all garbage kept in metal containers. The liberal use of cement for foundations and floors and strong wire netting over basement windows and the ends of drain pipes, is a great help in keeping them out.

Two forms of White-footed Mice are very common here, one inhabiting the woods, known as the Northern White-footed Mouse, and the other, the Prairie White-footed Mouse, living in the open fields as its name implies. The woodland form is light brownish in color with pure white underparts, while the prairie one is of a darker color and is smaller with a somewhat shorter tail. Both have large ears and big black shoe-button eyes.

The Northern White-footed Mouse makes its home in hollows of trees or roofs over a bird's nest and lines it with grass. It will even dispossess birds of an occupied nest and sometimes eat the eggs or young. The diet of these mice is mainly vegetarian, consisting of

nuts, fruit and bark. In the fall, they commonly resort to grain fields. They also like meat when it can be found. One that I caught in a trap was half eaten by its fellows. They store up grain and nuts for the winter in hollows or bury them in holes and stumps under logs where they sometimes make their nests. Once my dog brought me a tin can in which a mouse of this species had four half grown young of a slaty gray color. Another time, in a cabin in the woods, I found that a female had made a nest of cotton in my shooting coat pocket and had five newly born young there. The young number from three to six and two or three litters are born each season. In winter, as many as a dozen live together, separating in the spring to make their nests and rear their young.

The **Prairie White-footed Mouse**, living away from trees, must of a necessity make its home under ground; here it winters and the first litter is born. As the weather becomes warmer, and the long grass affords protection, it lives more above ground under old logs, stones or fences. In the fields it lives on insects, leaves of certain plants and weed seeds. During the fall it is found in the shocks of corn and other grain and in the winter it often causes great damage by burrowing under young fruit trees and eating the bark from the roots. The average number of young is five, and they have been found during every month from March to November. Like its woodland cousin, it stores up quantities of food for winter, but it lives in pairs only in the winter burrows.



Two forms of meadow mice or voles also occur here, the Common Meadow Mouse and the Prairie

Meadow Mouse. They are of a stockier build than the White-footed Mice and have shorter ears and tails. The **Common Meadow Mouse** lives in marshes, damp pastures and boggy woods. It is a dark grayish animal, lighter on the sides and lighter gray underneath. Living in such wet places, it is naturally forced to live above ground most of the time and to make its nests in tussocks of grass or in very shallow burrows above the damp ground. The young number five or



six and, sometimes, eight, and three litters are born each season. Meadow mice are active throughout the year. In winter they live under the snow in nests of grass which are also used as store houses and are filled with grass and weed roots, grain and bark. Even living as they do, under the grass in summer and under a blanket of snow in winter, many cannot escape the sharp eyes of hawks and owls that continually prey upon them. Those living near a stream or pond are as much at home in the water as on land, and often use it as a means of escape when pursued.

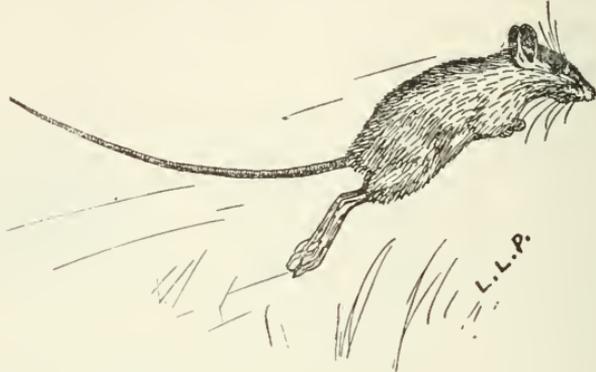
The **Prairie Meadow Mouse** or **Prairie Vole** has many of the same habits and tastes as the preceding species, but, since it prefers high and dry ground, its manner of living is naturally not the same. It is of a slightly lighter color with a more grizzled appearance, and the underparts are more buffy than gray. Inhabiting dry fields, it is able to burrow and live under ground during the winter, bringing forth its first litter of young there. The burrows contain store-rooms with provisions for winter, such as small bulbs and grass roots. Grain also forms a large part of its diet. When it encounters roots of fruit trees in its burrowing, it eats the bark and often kills the tree.

A mouse closely related to the Meadow Mouse is the **Pine Mouse** or **Mole Mouse**, but it is very rare in this region, only four having been recorded. It is smaller than either of the meadow mice and, although it has the same general form, it has softer and silkier fur. The habit of making many burrows under the ground where it lives most of the time, has earned it the name of Mole Mouse.

The largest member of the rat and mouse family is the **Muskrat**, one of our important fur-bearers. In spite of the war waged against it, it still makes its home close to man and his works. Muskrats are fairly common about Chicago. They were especially numerous, a few years ago, in the lagoons of Jackson Park. Man is really its only enemy, since he has driven out the Otter and greatly thinned the ranks of the Mink. It lives chiefly in burrows in or under banks, the entrance being under water and the passage slanting up to a large chamber above the level of the water. It also builds large houses of reeds and weed stalks with an entrance under water. The food consists of fresh-water mussels and aquatic plants. It does a good deal of damage to water-lilies in parks. One reason, perhaps, why the muskrat is able to live on among men is that, during the winter when the ponds are frozen, it can move about freely under the ice in search of food and yet cannot be seen. When there is space between the water and the ice, it can breathe there, and can always get air near the thin ice along the shore. One litter of from five to seven young is raised each year. The flesh of the muskrat is said to be very palatable either boiled or roasted.

One of our most interesting but, unfortunately, most uncommon mice, is the **Jumping Mouse**. It is a little tawny-colored animal with medium-sized ears and very long hind feet and a four and a half inch tail

which is fully an inch longer than its body. It is said to be able, when frightened, to make jumps of ten feet in its effort to escape. In the summer, it is apt to be met with in this area, mainly in cool places either in the woods or fields. It spends the cold months asleep,



rolled into a tight little ball in its nest under ground. Nests of grass and leaves are also constructed on the ground for summer use, where the three to six young are sometimes born.

Rabbits, although formerly in the order Rodentia, have now been separated and placed in the order Lagomorpha. The members of this order are closely related to the Rodentia, but among other differences, have four upper incisors instead of two. The second pair is very small and is placed behind the front ones. Our representative is the **Cotton-tail Rabbit** which is so common in all the Chicago suburbs. It does a good deal of damage to suburban gardens in summer and to trees and bushes in winter. It seems to be more common about small towns than in the open country where hunting is permitted. It lives in small, wooded areas and brushy fields, feeding on grass, leaves and buds in the summer and mainly on bark in the winter. Piles of brush cut in the fall often have all the bark stripped from the small branches and twigs by spring. Three

litters are raised each season, the first one coming very early in the spring. I once found five young rabbits in their cup-shaped hollow under a brush pile early in March while snow still covered the ground. The young stay with the mother only about a month, when they start out for themselves, and are often found in the woods and fields. I remember a large mastiff that used to bring them to us in his mouth, alive and unharmed. Rabbits rely on staying quiet to escape notice and will not move until literally stepped on; then they race off with great bounds, their little powder-puffs of tails bobbing up and down as they go. The larger mammals, birds of prey, and man, all hunt the rabbit and, were it not so prolific, it would soon be exterminated.

The order Carnivora comprises the flesh-eating mammals, mainly beasts of prey, as the dogs, cats, weasels and coons. The larger ones, such as the wolves, bears and cats, are soon driven out of a settled district. The largest mammal of this region is still with us only because it has developed a cunning and shrewdness rarely equalled among other mammals. This is the **Red Fox** which, while seen occasionally in other localities, is practically confined here to the Dune Region of northern Indiana. The fox, like the muskrat, has benefited by man's driving out its enemies, and, as it can nearly always outwit man, it is fairly safe. If, however, a fox raids too many chicken coops, there is sure to be a hunt organized and the thief will be hunted down and destroyed. If it confines itself to such food as mice, grasshoppers, muskrats, rabbits, and to wild grapes and other fruits, its presence is seldom suspected. The fox makes its den in holes in



the ground, some natural cavity in the rocks or in hollow stumps. One litter of four to eight young is born each year in April.

One other large mammal, the **Coyote** or **Prairie Wolf**, is occasionally reported in this region. It is probable that some of these reports are based on pure-bred, fully wild coyotes, but actual specimens with skulls are usually needed to prove whether or not they refer to wild or half wild dogs or animals escaped from captivity. The body of one killed near Waukegan, in December, 1924, showed very plainly how it is received in a settled area, for it contained all sizes of shot, some which it must have carried for nearly three years. While the skin was large, it appeared to be almost pure coyote, but the skull showed that it was not pure-blooded, but probably had a strain of domestic dog in its ancestry. Coyotes are especially destructive to sheep and, in some parts of the west, sheep-raising is seriously handicapped by them. They have a cunning equal to or perhaps greater than that of the fox and are well able to hold their own when the odds are not too strong against them. So a constant warfare must be kept up to keep their numbers below the danger point.

The **Skunk** is a very attractive looking animal, but it is another case of fine feathers not making fine birds, for when molested or angry, it ejects a strong, nauseating fluid which makes the vicinity for at least a quarter of a mile about most untenable. The skunk's motto is, however, "Let me alone and I'll let you alone," so if not molested, it goes quietly on its way in search of bugs and beetles. Its menu varies from chickens' eggs, young mice, birds



and snakes in the early spring and summer, to beetles and grasshoppers in the fall. When food becomes scarce in the fall, skunks hole up until the warm days of February. They also live under barns, sheds, and old farm buildings. The young are born early in May and number from four to six. The scent glands can be removed from the animal, making it harmless, and this is generally done on fur farms, so the fur will not have the disagreeable odor on damp days. The odor is noticeable for a number of years in the hair of dogs that have killed skunks, especially when the dogs are wet. Some Horned Owls have a strong odor of skunk, as they often kill them for food. People who have eaten the flesh of this animal claim that it has a very fine flavor and that it reminds one of chicken. The ranges of the Northern Skunk and the Illinois Skunk meet in this area, so it is hard to say to which sub-species our skunks belong. Most of them are intergrades between the two and could be referred to either. In the Dune Region, it also intergrades with the Eastern Skunk.

A valuable fur-bearer still occasionally met, is the Mink. It might be termed a water weasel, for it is generally found near the water and part of its food consists of fish, frogs, crayfish and other aquatic animals including the muskrat. Although it prefers the water, it is as much at home on land. Its swiftness even enables it to catch squirrels and rabbits. It also eats many meadow mice and farmers' chickens or other poultry when it can get them. Young birds and eggs are destroyed and, in fact, anything in the shape of meat, since it never eats any vegetable matter. It lives singly and is seldom found in pairs except during the mating season. The



young are born in April or May in a burrow or hollow under an old log, and stay with the female until nearly grown, when they gradually wander away and find new homes for themselves. The mink is of dark brown color with a patch of white on the chest and, unlike its relatives, the weasels, it does not turn white in winter.

Only one weasel is known to occur here in any numbers, and it is only locally common. This is the New York Weasel, which is a long, slim animal, vary-

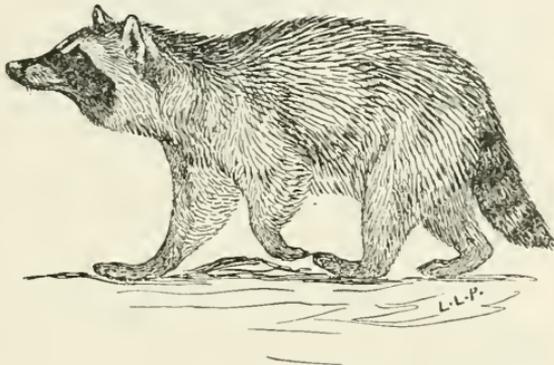


ing from twelve to sixteen inches in length. The female is much smaller than the male. In summer, it is dark

brown with white underparts, and in winter, the whole animal turns white. The white is often tinged with yellow. The end of the tail is black in both winter and summer pelages. Bonaparte's and Least Weasels have been taken in southern Wisconsin and, therefore, are likely to be found here. They are smaller, and the Least Weasel lacks the black tip on the tail. All the weasels are ferocious and blood-thirsty little animals, many times killing for the pure joy of it even when not prompted by the pangs of hunger. At such times they only suck the blood and eat the brains of their victims. Farmers have lost as many as fifteen or twenty fowls in a single night in this manner. These cases are the exception, however, for meadow mice, wood mice, ground squirrels, rabbits and other small mammals are their usual food, and in this way they are a great benefit to the farmers. Like the mink, they live singly except in the breeding season, and the young stay with the mother until late in the fall. These number from five to eight.

In the more wooded districts, especially in the river bottoms, the **Raccoon** is sure to be found. Its home in this region is generally in some hollow tree,

although I have known it to live under barns. The coon usually wanders about at night, either up in the trees hunting birds' or squirrels'



necks, or along the shores of creeks and streams, looking for frogs, crayfish and other aquatic animals. Green corn is one of its favorite foods and it is apt to do much damage, tearing down much more than it can eat. When it gets into a hen roost, it also kills more than it needs and returns the next day for more, which is very often its undoing. A coon makes an intelligent and interesting pet. It has a curious habit of washing all meat before eating it, and captive coons have been known to refuse to eat when no pan of water was provided for them. The young number from three to six, and are born in April and May and stay with the parents for some time. When cold weather comes on, the whole family rolls up in the nest and takes cat-naps all winter, appearing now and then on warm days.

The order Insectivora includes the shrews and moles which, like the Carnivora, live on animal food, but in the shape of insects and worms. Our smallest mammal is the **Common or Long-tailed Shrew**, its body being only two and a half inches long and its tail an inch and a half long. It makes its home under old logs, tree roots and bunches of grass, in the woods and fields,

mainly in cool places. It is a very active little animal, moving so rapidly the eye can scarcely follow it among the brown leaves which it closely resembles in color. It is like the weasel in its ferocity and bloodthirstiness. Dr. C. H. Merriam tells of three he placed together in a large tumbler. One was at once killed and devoured, and eight hours later, one of the others had been eaten, and the remaining one with two of his kind and size inside him, was greatly extended by his day's meal. But little is known of its home life and young.

Besides this little fellow, a larger shrew is found here, the **Short-tailed** or **Mole Shrew**. This shrew lives in burrows and is continually making new ones in all directions in its hunt for insects, ground beetles and their larvae. Combined with this mole-like habit, its very small eyes and hardly noticeable ears under the fur have helped to give it the name of Mole Shrew. It is just as ferocious as its smaller cousin, but, being almost twice its size, can prey upon young mice and birds, and has been known to kill mice larger and heavier than itself. All shrews have glands



that permit them to emit a very strong, musky odor, and for that reason, although they may be killed, they are eaten by but few animals, owls and weasels being the only ones to which they are welcome. Shrews do not hibernate but are active all winter. The **Small Short-tailed Shrew**, which is about an inch and a half shorter than the preceding species, has been recorded from this area but once. Dr. M. W. Lyon, Jr., took a single specimen near Tremont, Indiana, in the fall of 1924. The known range of this shrew just reaches our southern limits, but after more work has been done here, it will no doubt be found to include most of this region.



MAMMALS OF THE CHICAGO AREA.

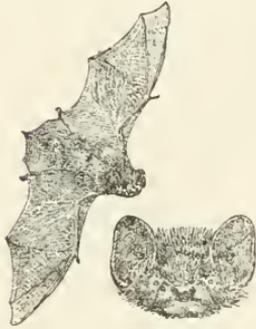
PART OF AN EXHIBIT IN FIELD MUSEUM OF NATURAL HISTORY.

Two Moles have been recorded from this region, the Prairie and the Star-nosed Mole, but the latter is very rare here. The **Prairie Mole** is a stocky animal about six inches long with enormous fore-feet which at once identify it. It lives under ground most of its life, forming many yards of tunnels in its search for the slugs, worms and larvae on which it feeds. When in captivity, it will eat meat. During the winter it digs deeper into the earth beyond the frozen ground for its food. The ground is raised in a ridge when the tunnels are made close to the surface and these give the trapper the clue as to areas inhabited by moles. The skin of the eastern moles, while equaling that of the European mole, is not so large or fine as that of those found on the Pacific Coast. At all times, the runways of the moles are used by other mammals, such as meadow-mice, pine mice and shrews, and the moles are unjustly blamed for the damage they do to plants and trees. The nest is a large mass of leaves and grass from six to eighteen inches below the ground. The mole produces two litters a year of from two to four young each.



The **Star-nosed Mole** is about the same size as the preceding species, but the feet are not nearly so large. It has numerous fleshy projections on the end of the snout that are used as feelers and from which it gets its name. This mole lives near the water and in damp boggy marshes and woods. But few of its nests have been found, and they were situated like those of the Prairie Mole, nearly a foot under ground. The Star-nosed Mole is active throughout the year and appears above ground more than any other species, even in winter. The Chicago area is on the edge of its range, which is to the north and east, so it is quite rare here.

But one family, the Vespertilionidae, is represented here from the order of Bats or Chiroptera. Seven species of this family have been recorded from this area.



Five of them, the Brown, Little Brown, Red, Hoary and Silver-haired are common, and there is one record each for Say's and Rafinesque's bats. They are purely insectivorous, hunting from sunset till dark and in the early hours of dawn. They live in caves, hollow trees, attics and crannies of old houses and in any

holes where it is dark and they can sleep during the day. Some of them migrate in the fall and others remain to hibernate. Like birds, they follow the water courses in their migrations and during the fall many are picked up in and about the Museum building. The young, numbering from two to four, go with the mother on her hunting trips, clinging to her breast when small. When too large for this, they are left in some hidden place to be called for later. They are among our most useful animals and deserve all the encouragement and protection possible.



The Virginia Opossum is the only representative of the Order Marsupiala found in this area. Like most of the other members of this order, the female carries

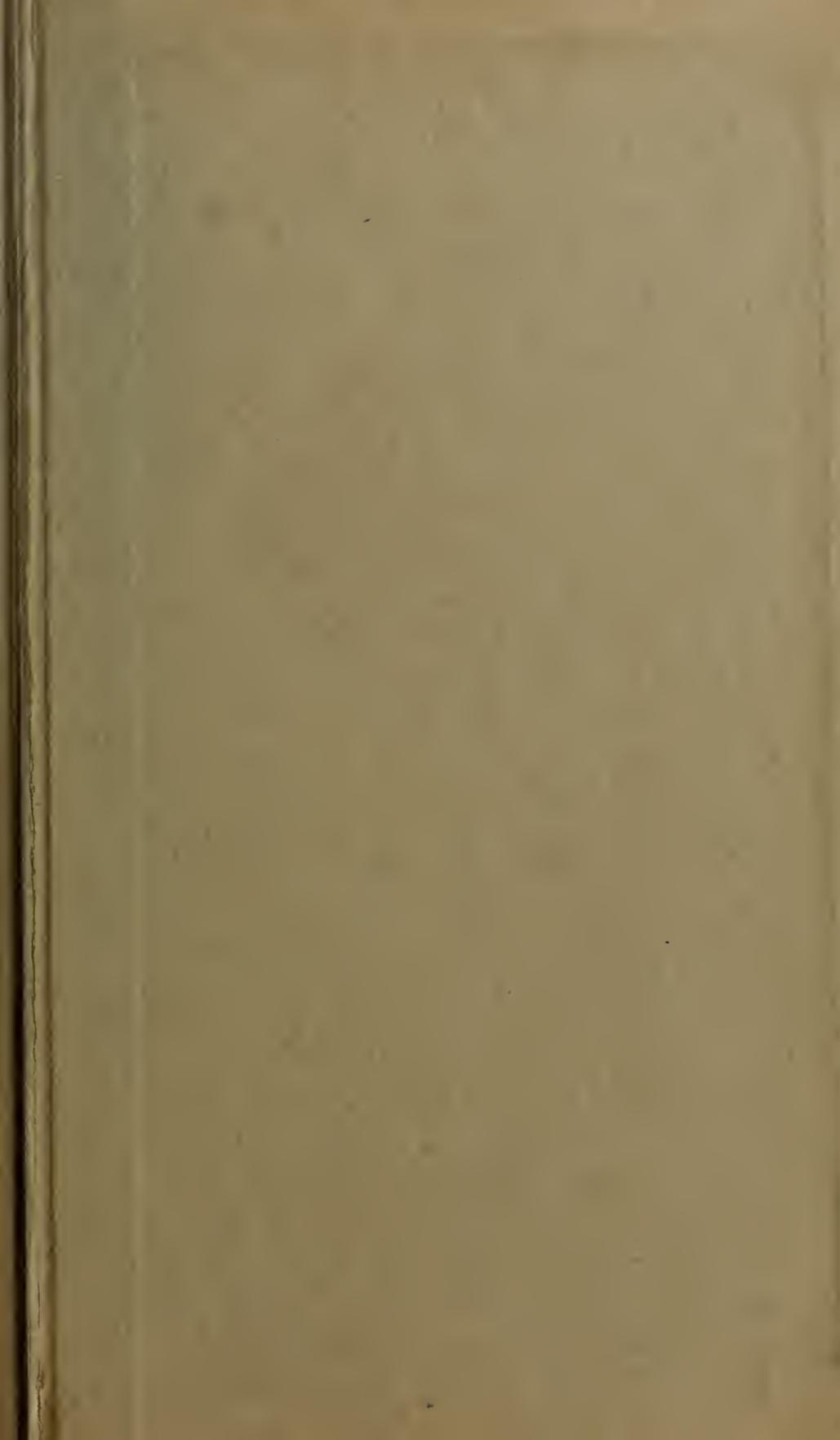
the young in a pouch for a number of weeks after they are born. Here they feed and grow until ready to come out and travel with their mother. Opossums have prehensile tails and their feet are like hands, so they can climb about in trees with nearly the ease of a monkey. They are practically omnivorous in their diet. They have been recorded in this region during the past fifteen years only from the Dunes where they are occasionally seen.

COLIN C. SANBORN,
Assistant, Division of Mammals.

In the alcoves just west of Pullman Hall are four groups of Chicago mammals. Seven species are shown with their natural surroundings. One shows the Muskrat and its house built in the water; one, the Woodchuck with young ones, enjoying a few moments outside the entrance to its burrow; one, the Red Squirrel, hunting about in the leaves; and one, the Short-tailed Shrew, Meadow Mouse, Northern White-footed Mouse, and Jumping Mouse, in their natural habitats, of wood, field and marsh. There is also a temporary screen in Stanley Field Hall, showing nearly all the Chicago mammals.







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