

RED FOXES IN THE CHICAGO AREA—CASE FOR THE DEFENSE

By COLIN CAMPBELL SANBORN
CURATOR OF MAMMALS

WHEN any sparsely populated area is opened to settlement or colonization the newcomers live for a time off the country until supply routes become established and they can buy more of their everyday needs. Hunting and trapping usually continue until most of the game and fur-bearing mammals are either driven out or exterminated. Game laws are enacted, but usually too late.

In general, these are the probable reasons for the return and increase of foxes in the Chicago area in the last few years. In 1912 there was a record of a red fox from Joliet and in 1936 another was recorded from Wilmington. Always fairly common in southern Illinois, the red fox had never in the past been anything but rare near Chicago. Today, however, it has increased to such numbers that a local sportsmen's organization petitioned the Forest Preserve

lated areas, falls prey to its enemies, or starves. Foxes naturally feed on the most abundant and easy-to-catch species, be it mouse or bird, and so act as a natural check or balance.

The red fox appears to be more abundant at the present time than the gray fox though no survey has yet been made of the individuals per square mile. A pair usually hunts over an area of not more than four to five square miles and, unless hunted with dogs, stays in that area as long as the food supply is adequate.

CACHE SOME FOOD

When food is plentiful, more prey is killed than may be necessary for the immediate needs. This is lightly cached for later use. Sometimes skunks, opossums, hawks, or crows find it before the fox, as when it is buried in snow and the first thaw exposes it.

The red fox mates in late winter and is monogamous and this season is usually the only time at which foxes are seen together. The period of gestation is 51 days and the young are born in late March or April. A large hollow tree or an enlarged woodchuck hole is used for a den. Dens in the ground generally have more than one exit and may be up to 15 feet long and 3 feet below the surface. The nest consists of a little dried grass. The earth from the den is usually scattered as a protection against discovery.

The four to nine young are blind for a week to ten days after birth and do not leave the den for about a month, which continues as their home for about three months. The dog fox, their father, is kept away from the den for a couple of weeks after their birth by the vixen, their mother. He continues to watch the den however and brings food, which he leaves near-by.

The remarkable flashlight photograph here reproduced shows young red foxes about five weeks old at the entrance to their den. It was taken in May by Mr. Tappan Gregory and Mr. R. R. Sturgis. It has appeared in Mr. Gregory's book *Eyes in the Night* and is here reproduced by courtesy of the publisher, Thomas Y. Crowell Company.

SOME STALK THE HOUND

The cunning of the red fox is proverbial. Most of the stories of his intelligent behavior are true, though in some cases, perhaps, they refer to exceptional individuals. Fox hunting with hounds is an age-old custom and it is certain that for a fox to live ten years it would have to be able to elude the hounds. There are stories that certain foxes have returned to find the hound when he had lost their scent; so with some individuals it seems to have become an exciting game rather than a terrifying persecution.

The English red fox was introduced into the eastern states for hunting between 1650

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COOK COUNTY VS. RED FOXES—THE DEFENDANTS

Witnesses for the prosecution at recent Forest Preserve Board hearings included sportsmen who charged the foxes menaced pheasants. The defense included members of the zoology staff of the Museum who contended the foxes' depredations had been exaggerated, and that their right to live was equal to that of the game birds—who would have as good a chance to survive the foxes as they would the shotguns of the hunters. (This photograph is by Tappan Gregory and R. R. Sturgis, and appears in the book, "Eyes in the Night," by the former. It is reproduced here by permission of the publisher, Thomas Y. Crowell Company.)

Later on, generally when the colony has become a large established settlement, perhaps a big city, some progressive citizens arouse sympathy and a feeling of responsibility among their fellows for the local flora and fauna. Forest preserves, game refuges, and parks are established, and these, in connection with private estates, golf clubs, and undeveloped subdivisions, provide the food, protection, and quiet that attract birds and mammals. Even species that had become rare or had been exterminated in the area may then return.

In the case of fur-bearers and predators such as mink, skunk, raccoon, and the foxes, a low bounty or none at all and a low price for fur that does not stimulate trapping are factors in their increase once given some protected habitat.

commissioners for permission to have fox drives in the Forest Preserves as it was believed that the foxes were killing off the introduced English pheasants.

It is undoubtedly true that the foxes are eating some of the pheasants, but exhaustive surveys in many states have shown that the food of the red fox is about 50 per cent rabbits and injurious rodents. In summer, berries and fruits make up a large part of its diet. Foxes also feed upon insects, snakes, lizards, frogs, and carrion. Birds eaten are, on the average, only about 10 per cent of their entire diet, when any extensive study is made.

Any habitat will support only the number of individuals for which there is an adequate food supply. The population over that maximum emigrates to less densely popu-

BOTANICAL EXPEDITION TO CENTRAL AMERICA

The Museum's sixth botanical expedition to Central America is scheduled to leave Chicago early in September. It will be conducted by the Curator of the Herbarium, Mr. Paul C. Standley, who has led three previous Museum expeditions to that region.

He will sail from New Orleans and land at Tela or Puerto Cortés, on the north coast of Honduras, proceed to the capital, Tegucigalpa, and to the Escuela Agrícola Panamericana, where he had headquarters during the ten months spent in middle Central America during 1946-47. The object of the expedition is the collection of herbarium specimens for further study of Central American flora.

Most of the months the expedition is in the field will be devoted to work in Honduras and Nicaragua, the least known botanically of the Central American republics. For some unknown reason, few plants ever have been collected in Nicaragua. It is the largest of the republics, and a great deal more collecting is needed. In 1946-47 Mr. Standley discovered there 45 new species of plants in little more than two months of work, 25 of them in one small humid valley in the Department of Jinotega. In richness of flora, the Nicaraguan valleys compare favorably with any part of Central America and greatly excel El Salvador.

The same expedition collected in the mountains and lowlands of Honduras two new genera and 52 new species. Most parts of Honduras never have been visited by a botanist, and much more field work is necessary before the flora is at all well known.

MEXICAN BIRD COLLECTING PROVES TOUGH JOB

The Mexican Zoological Expedition, with Mr. Melvin Traylor, Jr., Associate, Division of Birds, in charge, had its first headquarters camp on the edge of a sugar plantation among low hills covered with virgin forest near Cordoba, Vera Cruz.

"This is a peculiar place, and one of the toughest to hunt that I've seen," Mr. Traylor writes. "It's supposed to be in the tropical zone, only 1,500 feet in elevation, but so far I've seen no ant-birds, one oven-bird, two species of wood-hewer, and few flycatchers. Also, I haven't even heard, much less seen, a parrot; and if they're around you're almost sure to know it. Nevertheless, it's the best-looking jungle for miles around.

"The collecting otherwise is fair. I've gotten 150 birds so far, but sometimes it's tough to find even ten birds in a day. The undergrowth is so thick that you can't see at all except in the coffee plantations, which are fairly clear, and when you shoot birds out of the treetops, which is about the only place to see them, they're difficult to find."

Geology Expedition in East

Dr. Sharat K. Roy, Chief Curator of Geology, will spend approximately five weeks in the field starting early in September. He will make studies of and collect igneous rocks in the eastern states, and he expects to spend a good part of the time in the Adirondack region. The field work will be a continuation of the project he began in 1946. The rock specimens are needed to fill existing gaps in and augment the systematic rock collection of the Department of Geology. Dr. Roy's field studies are confined to basic igneous rocks, as he is especially interested in olivine-rich rocks and rocks having a composition somewhat similar to stony meteorites.

CHICAGO AREA FOXES

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and 1750. This fact has led to the speculation that the small eastern red fox spread west as the country was cleared and opened up and is the descendant of introduced English stock. It seems certain that if native foxes had been present, English foxes would not have been introduced. Also, while bones of gray fox have been found in ancient Indian deposits, no remains of the red fox have been found. The red foxes of northern and western North America are undoubtedly native; but the origin of the eastern fox is still in some doubt.

The gray fox was said by Kennicott in 1855 to have been not uncommon formerly in Cook County, but in 1936 there was only one positive record, based on a specimen, from the Chicago area. In the winter of 1946-47 two were trapped in southern Lake County and others have been reported, but its numbers have not reached those of the red fox.

The gray fox is more of a woodland animal than is the red fox. It makes its den in hollow trees or logs and among rocks and boulders. Its food is the same as that of the red fox, consisting of rodents, rabbits, some birds, fish, reptiles, berries, nuts, fruit, insects, and sometimes green corn. Three to five young are born in mid-April and the dog fox stays with the family, watching the den and bringing food, but does not enter it while the kits are very young.

REFUGE IN TREES

The gray fox soon tires when chased by hounds and often takes refuge in a tree. It can climb trees, either "shinning" up them or leaping from branch to branch. From here it may leap to the ground and run on, may stay to defy the dogs, or curl up and hide in a crotch or old crow or hawk nest.

Although an over-abundance of foxes, opossums or any other mammal would have to be controlled, it is gratifying to know that

'OPERATION SHOREFISH'

By MARGARET J. BAUER

A collateral objective of the Museum's 1948 Bermuda Deep Sea Expedition was to get a representative collection of the Bermuda shorefishes for critical comparison with the related or apparently identical species of the West Indies.

The use of rotenone, a commercial insecticide, offered by far the simplest method of fishing for this purpose. In recent years its use for fishing has been found extremely effective. Rotenone is made from cube or derris root, long used by the natives of South America and of other regions to catch fishes for food. The Navy had used it on a grand scale during the "Crossroads Operations" at Bikini Atoll in the Pacific. It is not poisonous to human beings.

Although other expeditions of this Museum have used the method, no one in the party at the time had had much personal experience with this type of collecting, and the only guide the members had was a set of printed directions. The first venture was undertaken with no little trepidation. With our Borgia's *Compleat Angler* in one hand and snatches from 100 pounds of rotenone in the other, members of the party bravely set out to collect shore fishes.

The collecting proved to be a success from the start. The first trip alone brought in more than 200 fishes, representing approximately 28 species.

The pictures on the opposite page tell the story.

Geologists Meet at Museum

The Museum was host to the eighth annual convention of the Midwest Federation of Geological Societies, August 21-23. Use of the lecture hall was extended to the organization. A special exhibit of geological material and hand-worked jewelry was staged by the organization in the foyer of the James Simpson Theatre. Mr. Paul G. Dallwig, the Layman Lecturer, participated in the program by giving one of his lecture tours of geological exhibits for the group.

Change in Visiting Hours

On September 7, the day after Labor Day, autumn visiting hours, 9 A.M. to 5 P.M., go into effect at the Museum, continuing until October 31.

these wild animals can find protection and sanctuary at the door of a big city where they can be studied or glimpses of them enjoyed by those who appreciate nature and the beauty of wild creatures.

Among habitat groups of birds of many parts of the world exhibited in Hall 20 are three showing birds of the Chicago region.



Sanborn, Colin Campbell. 1948. "Red Foxes in the Chicago Area--Case for The Defense." *Bulletin* 19(9), 3-4.

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