ANIMAL SILHOUETTES
by
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This issue of the Kansas School Naturalist is the third of a series. The first consisted primarily of the silhouettes of the larger herbivores, or plant-eaters, of the world. The second issue was devoted to the carnivores, or meat-eaters. This issue includes a rather heterogenous group of mammals, from very common ones like the cottontail rabbit to some of the rarest and oddest of the mammalian world, such as the duckbill platypus. At least one more issue in the mammal silhouette series is planned for the future.

The information below each sketch includes something about the size, distribution, food habits, and present status of the mammal. Issue No. 1 (Vol. 19) offered some suggestions as to how to use the sketches in the classroom.

COTTONTAIL
(Cover Picture)

Cottontails are found all over Kansas, as well as in many other states. This small rabbit is a popular game animal, and the flesh is excellent eating. They may reach a length of 14 to 17 inches, and a weight of from two to five pounds. They prefer to live in brush or other cover, usually coming out in the evening to feed and seek mates.

The young are born in a nest dug a few inches into the ground, and lined with dried grass and fur plucked from the coat of the mother. A female may produce several litters in a season. Litters may range from two to seven young, though four or five are more common. Cottontails are herbivores, or plant-eaters. They consume green vegetation during the warmer months of the year, turning to bark and twigs in the winter. They are also an important link in the food pyramid, furnishing flesh for such carnivores as the hawk and coyote. Years of high reported damage by coyotes are usually years when the cottontail population is low, forcing these predators to turn to other prey. Unfortunately, this prey may sometimes be the farmer’s pigs, sheep, or chickens.
The prairie dog is really a type of burrowing squirrel. They are excellent eating, though most people won't touch them because of the name "dog" that has been attached to the name. They do best where the grass is short, and once occurred in colonies of hundreds of thousands of individuals in western Kansas and on southwest. They were able to survive in the long-grass prairie to the East where the buffalo, and later the cattle, kept the grass short and trampled. Cattlemen do not like the prairie dog, as it competes with the cattle for food, both preferring to live on green vegetation. As a result, the prairie dog has been largely exterminated over most of its original range. There were an estimated two and one-half million acres of prairie dog towns in 1903.

Some 2,442,955 acres of prairie dog towns have been destroyed in Kansas in the last 50 years.

Litters consist of from two to ten young, which are born down in the grass-lined dens below ground. Prairie dogs are diurnal, being active during the day, and retiring to the safety of their dens when night falls. Adults may reach 12 inches in length, and weigh over two pounds.

The activities of the prairie dog have actually been found to make the open prairie more favorable for some 90 kinds of wild animals which prefer living in prairie dog towns. Some, like the burrowing owl and the black-footed ferret, have even become dependent upon the prairie dog and its activities for their survival.
These interesting little rodents are confined to sandy soils. In Kansas, they occupy the western half of the state. The head and body are about four inches long, the tail some five or six inches in length, and the weight may be up to two and one-half ounces. The front feet are small and weak, but the hind legs are strong and well-developed. They are nocturnal animals, and can be seen hopping along the edges of sandy Western Kansas country roads on warm summer nights. Though they resemble true Kangaroo in shape, they are not marsupials, but rodents.

Their food includes many weed seeds, so from this standpoint they may be considered beneficial. Trails may lead out from their burrows for as much as 40 feet or more to feeding places.

Kangaroo rats furnish food for owls, coyotes, badgers, and other predators, thus forming an important link in the food chain, or pyramid.

They make interesting and attractive pets. They should be placed in a glass-sided cage or an aquarium, which has a layer of sand on the bottom. The sand is used to roll in and keep their fur clean and shiny. They can get along with no water, and should be fed sunflower seeds and other kinds of seeds or grain. Do not put more than one in a cage, as they will fight until one is seriously injured or killed. They do not tolerate another in their cage or burrow except at breeding time.
PORCUPINE

Perhaps the most striking thing about this rodent is its spiny covering called quills. Quills are really specialized hairs, and can make painful wounds, as the barbules on the quills cause them to work deeper into the flesh of the victim. The quills are not “thrown” as many people think, but may become dislodged when the porcupine flips his spiny tail at his tormentor.

A porcupine may reach a length of nearly two feet, not including the seven to nine inches of tail, and weigh as much as 25 to 30 pounds. They prefer to feed upon bark, twigs, and buds, so are normally confined to occasionally be encountered in the western two-thirds of Kansas. They are fond of salt, and may sometimes gnaw the handles of axes, sweaty boots or saddles, or other objects that have absorbed the salt of perspiration.

These herbivores have few enemies in nature, except for man. Such large predators as bobcats and coyotes may risk the sharp quills to secure a meal when other meat is scarce.

A female usually has but one or two young. The quills of the new-born porcupines are soft at first, but soon harden so as to afford protection from most of their enemies.
Peccaries are sometimes called "wild pigs". However, there were no "pigs" of the type most people know in the United States prior to the coming of the Europeans and the Chinese. It was the latter that brought the breed of domestic pig that so readily takes to the wild and gave rise to the "razorbacks" of the southeastern North America today. Peccaries are totally different from any of the above. Though they are found today only in the New World, fossil evidence suggests that their ancestors probably came from Europe and Asia.

Peccaries are rather small, as pigs go, reaching a length of up to 36 inches, a height of 24 inches, and a weight of as much as 50 pounds. Their favorite habitat is in the brushy, semi-desert country, among cacti, oaks, chaparral, mesquite, and along cliffs and near waterholes. They feed primarily upon nuts, mesquite beans, berries, fruits, cacti, grubs, and bird eggs. They may be considered as beneficial, for they do not compete with grazing animals for food, and destroy much prickly pear cactus. They are good game animals, and the flesh is excellent eating. Like true pigs, they appear to be immune to snake bite, and will kill and eat rattlesnakes.

There are first-hand accounts of travelers and hunters in the desert being chased and "treeed" by a large herd of peccaries, especially the white-lipped species. The collared peccary is more common, and not as aggressive.
The name armadillo literally means "little armored one". It is a good name, for the animal actually is encased in a hard, armor-like "shell". When disturbed, some armadillos will roll up in a ball, trusting their hard outer covering to give them protection from their enemy. Armadillos are confined to South and Central America and up into Texas and Oklahoma. They may occasionally come up into southeastern Kansas, especially following a series of mild winters.

The armadillo normally gives birth to quadruplets. The young are fed on milk produced by the mother, and, in the species found in the United States, may grow to a weight of over 17 pounds. Most of the armadillo's food consists of animal matter, primarily insects and other invertebrates. Some people eat armadillos, and report that their white flesh has a delicate flavor. The shell may be made into ornaments or baskets.

They live in woodlands, brushy areas, and around rocky outcrops. They are great diggers, and come out both during the day and the night, though more are active after the sun goes down. They have very few teeth, so couldn't give a human a serious bite. Watch out for the long claws if you every try to pick one up, though!
ANTEATERS

There are several kinds of odd mammals referred to as "anteaters". One of the strangest is the egg-laying spiny anteater of Australia and New Guinea. Perhaps the most striking is the giant anteater (shown in the sketch) of Central and South America.

The Central and South American forms have been placed in a group called the "Edentata", which literally means without teeth. It really isn't a very good name, as one of the great anteaters has more teeth than any other mammal, except for certain whales. They are a very ancient, in many ways truly primitive, and yet a very specialized group. They are represented by only a few species today. However, fossil evidence indicates they had numerous successful relatives in prehistoric times, some of which were as large as elephants.

The giant anteater reaches an overall length of over six feet. In spite of its odd shape and clumsy gait, it is an amazingly quick and deadly infighter. Even jaguars avoid large males of this species. The great claws are used to rip open the concrete-hard nests of termites. They then flick up the teeming insects with their foot-long, worm-shaped, sticky tongues. Observers claim the long bushy tail may actually be used to sweep insects together. The tail may also be used a a combined sunshade and umbrella when the animal is resting or sleeping.

As in the case of the opossum, the young may ride on the back of the mother for the first few months of their lives.
Though it is a mammal, the platypus hatches from a tiny egg, like a bird or reptile. The nest where the egg is laid is a tunnel dug in the river or stream bank. The newly-hatched young is hardly more than a half-inch in length, although it may grow to be as much as two and a half-feet long as an adult.

The platypus is covered with thick glossy fur, but has a duck-like bill. The five-toed paws are webbed, permitting the egg-laying mammal to be an excellent swimmer. The heavy claws on the toes allow it to dig such items of food as earthworms from the banks along the streams where it lives. It also eats insect larvae, mollusks, and tadpoles.

Though the young hatch from an egg, the furry animal gives milk like other mammals. One of the hind claws contains a poison gland, so caution must be exercised when handling one of these animals. It is classified as one of the most primitive mammals alive today. The platypus is native to Australia.
The Texas longhorn, colorfully described in many western films, stories, and songs, is a part of the legend of the Old West. Thinner and taller than a modern cow, they could survive on dry, sparse vegetation, and could stand the long, dusty cattle drives to the cow towns of Abilene and Dodge City.

Their name comes from the extremely long horns that extend outward from the head, turning upward and forward near the ends. This tough herbivore filled the niche vacated when buffalo were eliminated from the plains of our southwestern United States.

The great horns had an important survival function in protecting the animal and its calves from wolves and other predators, but, with the coming of the railroad the long horns became a liability when it came to packing these wild, unruly animals into a cattle car. Also, the thin, range-toughened steers did not produce the tenderest of beef. Finally, their wild, independent nature was not conducive to easy handling. With the trend toward docile, heavy, short-horned or hornless breeds, the longhorns decreased in numbers until only a handful remained, mostly as objects of curiosity to be seen in a few zoos. Their mounted horns may still be seen in some museums and for sale in western-wear stores.

Several people are reported to have taken an active interest in preserving this fascinating relic of the Old West, and small herds may now be found on several ranches of the South West.
Though the name "hippopotamus" literally means "river horse", they are probably closer to pigs than any other group of mammals. There are two kinds of hippos alive today, both found only in Africa. The most primitive of the two is the pigmy hippopotamus of West Africa. It is about the size of a large pig, and almost wholly aquatic. In spite of its long fang-like teeth and gaping mouth, it is of such mild disposition and so retiring that it was only discovered at the beginning of this century. It is a night feeder, and cannot come out into the strong sunlight for any length of time, or its moist, thin skin will dry and crack.

The greater hippopotamus is still rather common in some of the large rivers of tropical Africa. It is a tremendous brute—an adult bull may stand five feet at the shoulder and weigh up to four tons. Though usually mild in disposition, they may sometimes rush a passing boat and sink or crush it. The bite of a hippo, with its twenty- to thirty-inch tusks, a gaily thing. They have been known to bite a human clean through. They may be dangerous to meet on land, especially when they are on their way to feed at night, or when returning from their feeding grounds.

Some of the African tribes living along the rivers have long included the hippopotamus as one of their principal sources of protein in the diet. Many have fallen prey to indiscriminate hunting and shooting, while times of drought may result in the deaths of great numbers of these great beasts.
Some people are surprised to learn that whales are air-breathing mammals, just as humans are, warm-blooded, giving birth to young that are nursed by the mother.

Man has hunted whales on the high seas for at least ten thousand years. Among mammalian products, those derived from whales stand second in importance only to those obtained from domestic animals.

There are about one hundred known species of whales. Evidence suggests that they came from land-dwelling ancestors, which probably became extinct more than 60 million years ago. The smallest species is only about four-and-a-half feet long when fully grown; the largest whale ever recorded was a female blue whale measuring one-hundred thirteen and one-half feet in length. It probably weighed over 170 tons. This is as much as 35 elephants or 2380 human beings. It was considerably larger than the largest dinosaur that ever roamed the prehistoric landscape.

These monstrous animals can swim faster than a ship can travel through the sea, and, though air-breathing, can dive to almost a mile, staying below for over an hour. The largest whales appear to feed exclusively on small crustaceans, called "krill". Some species are fish-eaters, while the killer whales will devour almost anything, from larger whales to shellfish.

Whales are found in all the seas and oceans of the world. However, most of the species are cold-water animals. It is a sad reflection on man's greed and selfishness that he has brought many of these magnificent mammals to the verge of extinction. Unless some international agreement is reached and enforced for the conservation of the larger whales, many will become extinct within your lifetime.
Chimpanzees are perhaps the best known of the great apes, due to their antics at zoos and their frequent appearances on TV shows. They still live over a wide area in Africa, especially the areas of the tall equatorial and deciduous forests. A “chimp” may live to be 24 years old, and reach a weight of over 150 pounds. Like the gorillas, they have almost inconceivable strength. They are primarily arboreal, or tree-dwelling. Chimpanzees can walk “upright” more than any mammal other than man. Like humans, they show a great range of facial contour and expression, and their skins may range from pinkish, yellow, brown, to black. Some old males may actually become bald, like some humans. Like man, they may have cavities in their teeth, and be near- or far-sighted and have astigmatism. In fact, they suffer from most of our afflictions.

Chimpanzees are quite different psychologically from gorillas, being active, excitable, inquisitive, resourceful, and brash. They are quite intelligent, and there is little question that they use their brain in the same manner as humans. They are the commonest of the great apes in captivity. Though docile when young, these intelligent anthropoids become difficult to handle after five or six years.
Gorillas, like men, are classified as anthropoids, a group of the Primates without tails and with relatively large brains. They are the largest and most specialized of the apes. Man-like in shape, with a short and very obese body, an adult male may stand five and one-half feet tall, and have an arm-spread of eight feet. They have been reported to reach a weight of over 600 pounds. Their home is in the mountains and forested areas of Central and Western Africa.

In spite of their ferocious appearance, great size, and immense strength, they are actually timid creatures, and never deliberately attack human beings. As one author stated, “It appears that this greatest of the Primates is, in fact, not the ravening ogre he has been depicted, but just a great big, easily-scared vegetarian, desiring nothing more than to be left alone in his forest fastness to raise his solemn, quiet little kids, and be allowed the occasional privilege of marauding a human banana plantation.”

Because of their close relationship to man, they are susceptible to many of his diseases, especially those of the respiratory system, such as flu and the common cold. Zoos must exercise extreme caution to prevent them from catching some illness from visitors who come to view them.

Cutting of the forests, expanding populations, indiscriminate killing, and a lack of understanding and appreciation of this great animal paint a bleak future. Their numbers and habitat are decreasing rapidly, and many naturalists fear that they may become extinct before too many years.
1975-1976 AUDUBON SERIES

The EKSC Division of Biology and Special Events will again offer the following Audubon Screen Tours during the 1975-1976 school year:


Tuesday, April 20, 1976—"Four Fathom World." Harry Pederson presenting.

All programs start promptly at 7:30 p.m. on the EKSC Campus. The November 20 program will be held in Albert Taylor Hall, while the April 20 film will be shown in Brighton Lecture Hall. Single admission is $1.50 for adults and 0.50 for children. Family season tickets are $6.00. EKSC Student ID cards will admit the bearer. Season tickets may be ordered from Special Events. EKSC, 66801.

For further information concerning the Screen Tour call 343-1200. Ext. 307.

Anyone wishing a tour of the Schmidt Natural History Museum should write Dr. Thomas Eddy, Division of Biology, for arrangements. Should you wish a tour of the Ross Natural History Reservation, you should direct your correspondence to Dr. Dwight Spencer, Division of Biology. EKSC.