

THE PRAIRIE-DOG AND ITS EXTERMINATION IN KANSAS.

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The Prairie-Dog or Marmot of Kansas: It is believed that but one species of prairie-dog (*Cynomys ludovicianus*) is found in the state. This genus may be characterized as follows:

Size and Form: Length of body about thirteen inches, length of tail about three inches. The tail is covered on the sides and ends with stiff hairs about an inch long which give it a rather bushy appearance. Ears are short and round, laying close to the head, cheek pouches shallow. Feet with five claws, that on the thumb as large as that on the fifth toe. Skull heavily built, the post-orbital processes directed outward. Dentition remarkably heavy; the molar teeth have three transverse grooves on their crowns, first premolar nearly as large as the second. Molar series strongly convergent backward.

The color is of a brown on the upper part of the body fading to almost white on the throat and the hinder part of the belly. The eyes are large, dark and brilliant, with heavy dark lashes. About the nose on the upper lip are are long stiff hairs or feelers, similar to those of a cat. The hair on the body is short and stiff. The average dog will weigh about four pounds.

The home of the prairie-dog is a burrow in the ground. The excavated earth is piled around the mouth of the burrow so as to form a small mound which is higher than the surrounding ground and in wet weather prevents the water from filling the burrow. The mound also serves as an elevation on which the dog can stand and survey the surrounding country. On approaching

a prairie-dog village one often sees several dogs standing on their haunches on one of these mounds watching his approach and giving vent to their displeasure in a bark that sounds like the yelp of a young puppy. When they bark the whole body jerks and the tail flies up as though it cost quite an effort to make the noise. On a nearer approach the dog will pitch forward and dive into the hole, but in a short time if one remains quiet the nose of some curious dog will be seen cautiously protruding from the hole and on the owner's catching sight of the unwelcome visitor it will immediately be jerked back and nothing more will be seen of the dog for some time.

Prairie-dogs are agregarious animals and seem to take great pleasure in the company of their fellows. They may often be seen scampering from one hole to another or congregated in companies in the streets of the village or on a mound about the entrance of a hole, apparently discussing subjects of general interest. They are very affectionate animals and are seldom known to have domestic trouble. The demonstrations of love displayed by two pets after having been separated for some time would put to shame many a couple of higher intelligence. These pets were often seen standing on their haunches with their front feet on each other's shoulders rubbing their noses together in the most affectionate manner.

During the greater part of December, January and February the prairie-dog lies in a dormant state.

By some it is believed that the prairie-dog drinks nothing, while others contend that in each village there must be one hole

at least that goes down to water. If the latter is not the case it is quite evident that the prairie-dog seldom gets a drink, as in the regions where the dog-towns are situated dews are scant, rains seldom, and often the town is miles from surface water.

Prof. B. C. Jillson once had a pair of prairie dogs for pets. They were from Cheyenne, Wyoming. The gentleman who presented the Professor with the dogs said that he had had them for two months during which time they had been given no water. This was on October 26th and from that time till the first of the next May they drank nothing. On March 11th and May 3d water was placed before them, but on each occasion they merely smelled of it, then walked away without drinking a drop. From May first till the last of November they occupied a pen out in the yard in which they made a burrow. During this time they refused all water offered them, though they may have received an abundant supply from the falling rain, dew and moist earth. During the month of December one of them drank four times, viz:- on the 7th one-half ounce, on the 9th two ounces, on the 14th one and one half ounces, on the 20th one and one-half ounces, and on the 22d commenced its winter nap.

In digging they use their fore feet, throwing the dirt to some distance with their hind feet, sometimes turning around and pushing it back for some distance with their paws. They have a singular habit of using their noses as minute battering rams. Professor Jillson noticed his pets going about their pen using their noses in this manner.

The food of the prairie dog is grass and roots. Those

that have been tamed eat the blades, stalk, and grain of corn, blades and roots of grass, cabbage leaves, celery tops, apples, nuts, etc. Of peanuts they are very fond, but of nuts with hard shells they seem to know nothing; however, they eat them with apparent relish when cracked.

The prairie-dog is widely distributed over the western states and territories of the Union, extending from Mexico on the southwest to Minnesota on the north, and from eastern Kansas on the east to beyond the Rockies on the west. They are quite prolific, bringing forth from four to six each season. The young are first observed early in May and continue to appear during the month. They grow rapidly. The pairing season begins early in the fall. The young remain with the old dogs till the following spring.

The holes are peculiarly constructed. For a few feet only is the inclination great. That these holes communicate with each other is obvious. When water is poured in at one hole the occupants are often driven out at the entrance of their neighbors' burrow some distance away. Whenever the holes are in any way disturbed the occupants repair the damage as speedily as possible. Early after a rain, as before, the villagers closely inspect their homes to see that all is in proper shape, carefully arranging anything that is amiss. Banks about the entrances of the holes are kept higher than the surrounding ground. In case of a leak they will sometimes go out during a storm and repair the break. Tall weeds, grass, or anything growing on the "town-site" that in any way is liable to obstruct their view is

cut down many times during the season, and left scattered over the soil.

These interesting little animals have long been the subject of many wild speculations. They have been attributed with having forms of social government and economic laws far surpassing animals of the lower order. Their habits of life are very interesting, especially so from the fact that they are associated more or less with owls and rattlesnakes. The accounts of this peculiar association of animals whose habits of life are so different have lead to laughable conclusions, on the part of those who have tried to give them the characteristics of the "Happy Family". Some in trying to find the office of the owl in this association have given to him the management of the household, that is if keeping everything underground in order and of teaching the young dogs how to bark . To the rattlesnakes they have assigned the duty of catching all toads that bother the homes of the dogs. Those who have made a careful study of these animals have come to the conclusion that the owls and rattlesnakes are not welcome guests in the home of the prairie-dog but are unwelcome intruders. Rattlesnakes killed in the vicinity of dog-towns are found to have young prairie-dogs in their maws. When a rattlesnake enters a hole it has been observed that all the dogs,if possible,make their escape. Sometimes an old dog, in defense of her young, will attack the snake and attempt to drive him from the hole. Even if the dog is successful in driving the snake out she is usually left in a dying condition to soon afterward be carried out by the remaining members of her family. Dogs remove all fetid matter

from the holes. When the snake is victorious and the dog is driven out she is usually so badly bitten that in a short time she succumbs to the poison. When a snake enters a hole from which all the dogs have made good their escape, he may be conquered. The dogs seem to hold a short council and then begin filling up the hole. In this way they soon bury the snake alive without subjecting themselves to any danger. During this time the snake keeps up a constant threatening.

The owls are less to be dreaded by the prairie-dogs than the rattlesnakes. They, seldom, if ever, attack a grown dog; in fact the grown dogs pay but little attention to them after the young dogs are large enough to shift for themselves. However, while the young dogs are small the old one never brings them out at night, the time when the owls are most active; and even when she brings them out during the day she keeps them near her.

The owl does not live in the same burrow with the dogs but chooses the shallower ones that have been abandoned. In size the owl is hardly as large as a quail. In color he is a light gray on the upper part of the body and fading away to almost white on the throat and underside of the body. He stands more erect than the ordinary owl, flies faster and is more active during the day. On approaching a dog-town during either night or day, the owl is nearly sure to be the first thing to attract the attention. He makes a peculiar cockleing sound that can be heard farther than the bark of the dog. He is always on the alert and often gives to the dog the signal of an approaching danger.

Prairie-dogs are reported present in sixty eight counties



of Kansas and their numbers range from half acre villages in Douglas, Cowley and Butler Counties to continuous villages of whole sections of land in the western counties. Finney and Gove counties lead with about 200000 acres in each. The total acreage of dog town in the state is not far from two millions. Allowing fifty of the animals to the acre would make the actual prairie-dog population of the state one hundred millions. The annual increase of these if not checked in some manner would more than double the numbers. Fortunately they have many natural enemies. Owls and rattlesnakes feed on the young. Badgers, skunks, minks, weasles, coyotes and other animals destroy great numbers. Disease and drought also do their share in lessening their number. But in spite of these the increase is enormous.

One farmer in Wallace County says that his cattle will not eat grass on that part of his range occupied by prairie-dogs. AA ranchman in Logan County says he is now able to pasture only five hundred head of cattle on the same range where he pastured one thousand head ten years ago, when the prairie-dogs were not so numerous.

The problem before the people of the west is to save their pasture land from the ever widening spread of these pests. The farmers have been generally successful in clearing their occupied lands of them, but the larger tracts of pasture owned by non-residents or the government are over-run by prairie-dogs, and they soon come back to the smaller pastures and wheat lands. The United States government, through the department of

agriculture, has begun experiments on the work of their extermination. The state of Kansas, in the legislature of 1901, passed a law authorizing the appropriation of \$5,000.00, or such sum thereof, as may be necessary for carrying on experiments for the purpose of ascertaining the most efficient method to be used in the extermination of prairie-dogs and gophers in the state of Kansas. The board of regents of the Kansas State Agricultural College has been given charge of these experiments and has chosen two competent men, Professors Lantz and Failyer, who are carrying on the work. Experiments have been made with several poisons and the results have been satisfactory. The state has purchased the right to use Mr. D. W. Staple's poison which is manufactured at the college in sufficient quantities to supply all demands.

Poisons used:-

Carbon Bisulphide.

A tablespoonful of carbon bisulphide placed upon some absorbent material, as cotton, dry horse manure, or a piece of corn cob, and rolled down the prairie-dog burrows is effective in killing the animals. It is best immediately to cover the hole with sod and stamp down firmly.

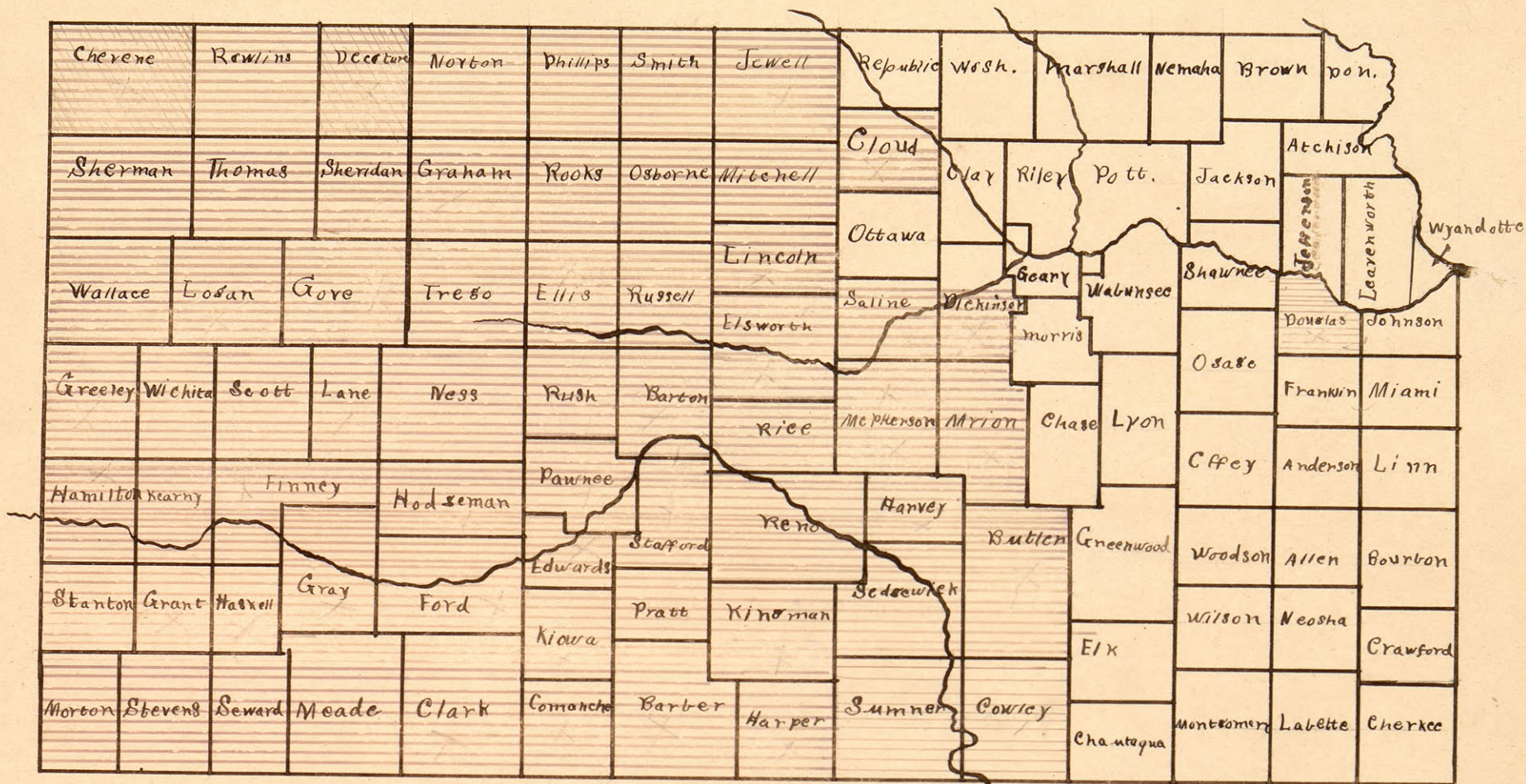
It has been found by experiment that four parts of gasoline mixed with one part of carbon bisulphide is about as effective as the carbon bisulphide alone, and not nearly as expensive. The mixture is used in the same manner as carbon bisulphide alone, but a somewhat larger dose is needed.

Strychnine Poison.

Formula No. 1. Dissolve one and a half ounces of strychnia sulphate in a quart of hot water. Add a quart of syrup -- molasses, sorghum, or thick sugar and water -- and a teaspoonful of oil of anise. Thoroughly heat and mix the liquid. While hot pour it over a bushel of clean wheat and mix completely. Then stir in two or more pounds of the corn-meal. The quantity of corn-meal needed will depend upon the amount of extra moisture present. There should be enough to wet every grain of the wheat and no more. Care should be taken that there is no leakage from the vessel in which the wheat is mixed.

Let the poisoned grain stand over night, and distribute it in the early morning of a bright day. Use a tablespoonful of the wheat to each hole occupied by prairie-dogs, putting it near the mouth of the burrow in two or three little bunches. Do not put out the poison in very cold or stormy weather. It will keep for a considerable time, and is much more effective after a cold period, as the animals are then hungry and eat the grain readily. A bushel of wheat should poison 1000 to 1200 holes.

An excellent substitute for the oil of anise in the above formula can be made by soaking two ounces of green coffee berries in the whites of three eggs. Let this stand for about twelve hours and use the liquid instead of anise oil.



Map of Kansas showing regions infested by prairie dogs

An enemy of the prairie dog



The prairiedog at home

