

PRAIRIE DOGS IN SHINNERY (OAK SCRUB) SAVANNAH

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ABSTRACT

The blacktailed prairie dog (*Cynomys ludovicianus*) has long been known as a characteristic animal of the great plains grassland, particularly where grasses of low stature prevail. Bio-ecologists have discussed it as an important member of the Mixed-Grass Prairie and Short-Grass Plains Associations, but not of the Tall-Grass Prairie.

Prairie dog colonies were observed in Roger Mills County, Oklahoma, on land which formerly supported shinnery savannah (*Andropogon-Quercus* scrub) cover, and unmistakable evidence of cutting and pruning of shinnery (*Quercus* sp.) and sand sagebrush (*Artemisia filifolia* Torr.) by prairie dogs was seen. The progress of a colony in clearing shinnery sprouts and re-occupying territory from which it had been removed by poisoning is recorded.

Inquiry into the history of the colony indicated that prairie dogs had been present on small areas of tight soils covered with short or mixed grasses at the time the country was settled by farmers. Following the division of the land into farms and confinement of livestock to small pastures, the prairie dogs began to spread into the shinnery, clearing it from the ground as they went. The colony expanded from an area of less than 80 acres to cover more than 400 acres before the animals were poisoned. The limits of clearing prior to the poisoning can be seen on aerial photographs made in 1936. The rodents were not all killed, however, and are rapidly reoccupying their former territory.

This is an example of the invasion and further modification of one biotic community by an important and characteristic animal of another, following modification of the biota by man and his domestic animals.

Factors favoring the spread of the prairie dogs from the original mixed-grass prairie inclusions within the shinnery savannah after homesteading of the land by farmers included (1) modification of the dominant vegetation by grazing by domestic stock, (2) reduction in numbers of predatory animals, and (3) reduced food supply within the original bounds of the colony owing to the increase in its own population and grazing by domestic stock.

Soil types apparently had little influence upon the local distribution of the prairie dogs after the biotic balance was upset.

In the presence of continued grazing by domestic stock, the prairie dogs are able to maintain and extend their control over the woody species of the shinnery savannah vegetation type.