

## VERTEBRATES IN A PRAIRIE DOG TOWN

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Throughout the Great Plains, cultivation has greatly reduced natural grasslands. Most black-tailed prairie dog colonies, or "dog-towns", however, represent areas of native shortgrasses which, except for grazing by cattle, have remained relatively undisturbed for many years. Indeed, I have found old bison wallows in many such colonies throughout western Oklahoma (1). Farmers and ranchers maintain that the rodents compete with cattle for grass and that they physically disrupt the rangeland with their elevated burrow mounds. Consequently, the number of active dogtowns has rapidly dwindled due to extensive poisoning campaigns by federal control agents. This is unfortunate because the colonies afford a unique ecological situation which attracts many other interesting animals, such as the burrowing owl, black-footed ferret, desert cottontail, badger, and prairie rattlesnake.

Before prairie dogs are completely eliminated, as much information as possible about the ecological relationships among various animals in a typical dogtown should be obtained. This subject has been touched on in other parts of the animal's range, notably in South Dakota (2), and Kansas (3,4). Koford (5) studied dogtowns in six widespread localities in the Great Plains. My previous research (1) provided a basis for the present study.

The prairie dog colony under observation was located  $3\frac{1}{4}$  miles east and  $\frac{1}{4}$  mile north of the town of Duke, in Jackson County, Oklahoma, near a small stockpen owned by the Kizziar Feedlot Company. It covered approximately 3 acres when first visited August 26, 1966, but by January 31, 1970, had grown to about 12 acres. The colony was irregular in outline, with rock-strewn slopes along the east and north edges. Buffalo grass (*Buchloe dactyloides*), interspersed with patches of prickly-pear (*Opuntia*), constituted most of the ground cover. Other abundant forbs included pigweed (*Amaranthus*), portulaca (*Portulaca*), broad-leaved milkweed (*Asclepius latifolia*), wavyleaf thistle (*Cirsium undulatum*), and puncturevine (*Tribulus terrestris*).

The dogtown was visited 15 times from August 26, 1966 to January 31, 1970. Four of these observations were made in summer, 5 in fall, 3 in spring, and 3 in winter. The greatest number of species noted during one visit was 23, seen May 6, 1967. This number included 3 species of amphibians, 7 reptiles (4 snakes, 3 lizards), 7 birds and 6 mammals. A total of 53 species was observed during the  $3\frac{1}{2}$  year period. Of these, there were 4 amphibians, 8 reptiles, 30 birds, and 11 mammals. An annotated list is presented in Table 1.

TABLE 1. Vertebrates observed in the Kizziar prairie dog town, 1966-1970.

Species	Date	Remarks
Class Amphibia		
<i>Ambystoma tigrinum</i> (Barred tiger salamander)	5/6/67	Adult collected under rock, N. edge DT. <sup>1</sup>
<i>Scaphiopus couchi</i> (Couch's spadefoot toad)	5/6/67	Dead adult dropped from air by burrowing owl.
<i>Bufo debilis</i> (Green toad)	5/6/67	Collected 4 under rock, N edge DT.
<i>Acris crepitans</i> (Cricket frog)	5/24/69	Found 1, partly eaten, at mouth of burrowing owl hok.
Class Reptilia		
<i>Phrynosoma cornutum</i> (Texas horned lizard)	8/26/66	Bodies of 6, some heads eaten, at burrowing owl hok.
	5/6/67	A freshly killed adult dropped from air by burrowing owl; 8 others, N edge DT.

Species	Date	Remarks
<i>Crotaphytus collaris</i> (Collared lizard)	5/6/67	3 adults and 2 juveniles collected amid rocks, N edge DT.
<i>Cnemidophorus gularis</i> (Spotted whiptail lizard)	5/6/67	2 young and 1 adult beneath rocks, N edge DT.
<i>Leptotyphlops dulcis</i> (Texas blind snake)	8/1/69	2 adults, DT; often hid in clumps of <i>Opuntia</i> .
<i>Sonora episcopa</i> (Ground snake)	5/6/67	1 collected under rock, N edge DT.
<i>Tantilla nigriceps</i> (Great Plains blackheaded snake)	5/6/67	4 collected from under rocks, N side DT.
<i>Rhinocheilus lecontei</i> (Long-nosed snake)	5/6/67	1 collected from beneath rock, N DT.
<i>Pituophis melanoleucus</i> (Bullsnake)	5/6/67	As above.
	9/13/69	4 ft. specimen crawled through DT, then down active PD <sup>2</sup> hole. A dead bullsnake noted 1/4 mile S.E. of DT.
Class Aves		
<i>Cathartes aura</i> (Turkey vulture)	6/28/69	1 circled low over DT.
<i>Ictinia mississippiensis</i> (Mississippi kite)	8/2/69	Adult flew low over DT.
<i>Buteo jamaicensis</i> (Red-tailed hawk)	11/1/69	1 circled high above DT.
	12/12/69	2 noted over DT.
<i>Buteo swainsoni</i> (Swainson's hawk)	8/26/66	2 soared above DT.
	5/24/69	1 seen near DT.
	6/28/69	3 circled over DT.
	8/1/69	4 seen, 1 pursued by 3 scissor-tails. Empty nest found in tree 300 yd S. of DT; contained fresh remains of cotton rat.
<i>Buteo lagopus</i> (Rough-legged hawk)	11/9/68	1 wheeled above DT.
	5/24/69	2 circled low, then perched just N of DT.
<i>Aquila chrysaetos</i> (Golden eagle)	11/1/69	Saw an immature bird which frequented a craggy area immediately N.W. of DT.
	12/12/69	Probably same eagle.
<i>Circus cyaneus</i> (Marsh hawk)	1/21/67	1 drifted low near DT.
	11/1/69	2 circled DT.
	12/12/69	1 noted over DT.
<i>Falco sparverius</i> (Sparrow hawk)	8/26/66	1 flew low over DT; lit on clump of <i>Opuntia</i> .
	8/2/69	1 flew low over DT.
<i>Charadrius vociferous</i> (Killdeer)	8/26/66	3 noted feeding in DT.
	8/2/69	1 seen running about among PD.
<i>Bartramia longicauda</i> (Upland plover)	5/6/67	2 flew low over DT; lit nearby.
<i>Numenius americanus</i> (Long-billed curlew)	8/26/66	4 landed in DT; fed several minutes.
	5/24/69	1 noted in DT.
<i>Larus pipixcan</i> (Franklin's gull)	11/1/69	Saw 20 light at small pond near DT; many flew over, very high.
<i>Zenaidura macroura</i> (Mourning dove)	5/6/67	3 observed feeding among PD.
	5/24/69	As above.
	6/28/69	1 flew low over DT.
	8/2/69	1 noted in DT.
	11/1/69	4 seen near DT.
<i>Bubo virginianus</i> (Great horned owl)	4/19/67	Dead owl found tangled in power lines near DT by feedlot employee.
<i>Speotyto cunicularia</i> (Burrowing owl)	8/26/66 - 1/31/70	Species observed each visit to DT. Resident, but much more numerous in spring and summer; average number seen: spring, 16; summer, 42; fall, 8; winter, 5.
	8/2/69	Greatest number of owls counted: 72.
	1/31/70	Fewest owls counted: 2.

Species	Date	Remarks
<i>Speotyto cucularia</i> (Cont'd) (Burrowing owl)	8/1/69	5 young and 1 adult owl in same burrow at same time. Owls often hovered above DT, searching for insects; often lit on fence posts. Sometimes confronted cottontail trying to retreat into owl's hole; owl always won possession by spreading wings and lowering head. Owls sometimes panted in summer, bill open, throat rapidly undulating.
<i>Muscivora forficata</i> (Scissor-tailed flycatcher)	5/24/69	1 seen in DT.
<i>Eremophila alpestris</i> (Horned lark)	11/24/66	About 35 seen feeding among PD.
	1/21/67	5 seen feeding near DT.
	5/6/67	1 seen in DT.
	5/24/69	As above.
	6/28/69	As above.
	12/12/69	12 flew across DT.
<i>Hirundo rustica</i> (Barn swallow)	8/26/66	4 flew, a few feet above DT.
<i>Petrochelidon pyrrhonota</i> (Cliff swallow)	5/24/69	2 seen, as above.
	5/6/67	3 seen, as above.
<i>Corvus cryptoleucus</i> (White-necked raven)	5/24/69	14 drifted low over DT.
	6/28/69	4 noted, as above.
<i>Sturnus vulgaris</i> (Starling)	11/1/69	About 80 fed with large flock of Brewer's blackbirds among cattle in DT.
	12/12/69	Several hundred around stockpens at edge of DT.
<i>Passer domesticus</i> (House sparrow)	11/24/66	Some 50 around stockpens.
	11/1/69	About 100, as above.
	12/12/69	As above.
<i>Sturnella magna</i> (Eastern meadowlark)	11/24/66	5 feeding in DT.
	1/21/67	2 noted, as above.
<i>Sturnella neglecta</i> (Western meadowlark)	5/24/69	A few seen and heard, DT.
	11/1/69	6 recorded, as above.
	12/12/69	Some 15, feeding in DT.
<i>Euphagus cyanocephalus</i> (Brewer's blackbird)	11/1/69	Estimated 4,000 feeding among cattle in DT.
	12/12/69	About 10 near stockpens.
<i>Molothrus ater</i> (Brown-headed cowbird)	8/26/66	Several hundred on ground among PD and around stockpens, feeding.
<i>Ammodramus savannarum</i> (Grasshopper sparrow)	5/24/69	1 collected at N. edge, DT.
<i>Chondestes grammacus</i> (Lark sparrow)	5/6/67	3 feeding on ground, DT.
	5/24/69	2 seen, as above.
<i>Spizella passerina</i> (Chipping sparrow)	5/6/67	6 lit at edge of DT.
<i>Rhynchophanes mccownii</i> (McCown's longspur)	11/1/69	About 50 observed feeding on ground, DT.
	12/12/69	About 20, as above.
	1/31/70	About 15, as above.
Class Mammalia		
<i>Didelphis marsupialis</i> (Opossum)	1/31/70	Adult male found dead at S. end of DT.
<i>Sylvilagus auduboni</i> (Desert cottontail)	8/26/66 - 1/31/70	Seen each visit, usually in burrow entrance, sometimes grazing amidst prairie dogs. Most seen during one visit. (See remarks on Burrowing owl).
<i>Lepus californicus</i> (Blacktail jackrabbit)	8/26/66 - 1/31/70	Seen each visit except one, 1/21/67; 40 counted. 6/28/69. Preferred to rest in shade of tall weeds, esp. <i>Cirsium</i> , on hot days. Preyed on by golden eagle and probably buzzards.
<i>Cynomys ludovicianus</i> (Black-tailed prairie dog)	8/26/66 12/12/69	Counted 32 first visit, (when DT was about 3 acres). One of last visits; counted 69 (DT about 12 acres). Subject to minimal hunting since DT is protected.
<i>Citellus tridecemlineatus</i> (Thirteen-lined ground squirrel)	5/6/67	1 photographed just before entering old PD hole.
<i>Peromyscus maniculatus</i> (White-footed mouse)	11/24/66	Flushed 5 from under <i>Opuntia</i> clumps. DT.

Species	Date	Remarks
<i>Neotoma micropus</i> (Southern plains woodrat)	5/6/67	Adult female with 3 suckling young in nest under large rock, N edge DT. Two nests over old PD burrows.
<i>Onychomys leucogaster</i> (Northern grasshopper mouse)	5/6/67	Adult male, head missing, at burrowing owl hole.
<i>Felis domesticus</i> (Housecat)	11/24/66	Adult found dead in DT.
<i>Taxidea taxus</i> (Badger)	12/12/69	1 found dead at PD burrow where it had been digging; shot with a .22 rifle. Little evidence of badger activity in DT; 2 captured from a den in DT, summer, 1968 by feedlot employees.
<i>Mephitis mephitis</i> (Striped skunk)	12/12/69	1 observed at S. end of dogtown.

<sup>1</sup> DT, dog-town or colony.

<sup>2</sup> PD, prairie dog(s).

#### REFERENCES

1. J. D. TYLER, Distribution and Vertebrate Associates of the Blacktailed Prairie Dog in Oklahoma, Ph.D. Thesis, University of Oklahoma, Norman, 1968.
2. J. A. KING, Social behavior, social organization, and population dynamics in a black-tailed prairie dog town in the Black Hills of South Dakota, Contrib. Univ. Michigan Lab. Vert. Biol. 67, 1955.
3. T. H. SCHEFFER, Trans. Kansas Acad. Sci. 40: 391-395 (1937).
4. R. E. SMITH, Natural history of the prairie dog in Kansas, Misc. Publ. 16, Univ. Kansas Museum Nat. Hist. and State Biol. Survey of Kansas, 1967.
5. C. B. KOFORD, Prairie dogs, whitefaces, and blue grama, Wildl. Monograph No. 3, 1958.