

The Porcupine in Oklahoma

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INTRODUCTION

The porcupine (*Erethizon dorsatum*) has long been known as a resident of the Black Mesa area in Cimarron County at the western end of the Oklahoma Panhandle (1-3). Elsewhere in the state its distribution has been poorly documented, based primarily on 18 specimens (most represented by quills or photos) and sight records (4). We report 40 new specimens and 160 additional sightings of porcupines in Oklahoma during the past 36 years.

Sightings and specimen records were compiled by interviewing landowners, veterinarians, and game rangers throughout western Oklahoma and by surveying regional collections. We are aware of 58 specimens from Oklahoma east of Cimarron County, including 50 at the Cameron University Museum of Zoology (CUMZ), three at the University of Oklahoma Museum of Natural History (OMNH); three at the Oklahoma State University Museum (OKSU); one at the Midwestern State University Museum (MWSU); and one at the United States National Museum (USNM).

SIGHTINGS

[County: number (year (s) - 1900);]

Beaver: 12 (80-95); Beckham: 4 (75-95); Blaine: 9 (67-96); Caddo: 1 (89); Comanche: 15 (42-93);

Cotton: 10 (75-92); Custer: 1 (73); Dewey: 4 (88-91); Greer: 27 (45-95); Harmon: 6 (65-94);

Harper: 4 (32-95); Jackson: 18 (ca. 44-94); Jefferson: 1 (86); Kingfisher: 5 (78-92); Kiowa: 8 (75-89);

Logan: 1 (89); McClain: 1 (96); Major: 1 (74-95); Roger Mills: 9 (65-89); Texas: 3 (87-93);

Tillman: 13 (87-95); Woodward: 4 (89-96); Woods: 3 (ca. 72-95).

SPECIMENS

[County: where collected (number examined);] (Unless otherwise noted, specimens are in CUMZ)--- Beaver: 10 mi. S, 2 E Gate (1); 10 mi. E Elmwood (1). Carter: Lone Grove (1). Comanche: Wichita Mtns. Natl. Wildl. Refuge (3, USNM, 1); 5 mi. S, 4 W Cache (1); 2.5 mi. E Cache (1); 4 mi. N, 3 W Indianhomia (1); near Geronimo (1); 6 mi. S Sterling (1); Lawton (4); Fort Sill (1); 0.75 mi. W Indianhomia (1); 5 mi. N Indianhomia (1). Cotton: 4 mi. N, 1.5 E Randlett (1). Custer: Washita Natl. Wildl. Refuge (1). Dewey: 7 mi. S Taloga (1); 2 mi. N Taloga (1). Ellis: Fargo (OMNH, 1); 8 mi. N, 1 W Roll (1). Garvin: 3 mi. W Hennepin (OMNH, 1). Greer: 11 mi. W Mangum (1); 5 mi. N Mangum (1); Quartz Mtn. State Park (1); 5 mi. N, 0.25 W Blair (1). Harmon: 8 mi. N, 2 W Hollis (1). Jackson: 4 mi. S, 5 E Eldorado (1); 2.5 mi. S, 5.5 E Eldorado (1); 6.75 mi. N, 3 W Headrick (2); 5 mi. E Altus (1); 6 mi. E Altus (1); 1.25 mi. N, 6 E Blair (1); 1 mi. N, 5.5 E Blair (1). Kingfisher: near Kingfisher (1). Kiowa: 1.5 mi. S Roosevelt (1); 1.5 mi. E Snyder (1); Snyder (1). Latimer: near Wilberton (OKSU, 1). Major: 1.25 mi. N, 4 E Chester (OKSU, 1); 10 mi. E Quinlan (OMNH, 1). McClain: 1 mi. N, 3 W Newcastle (1). Noble: 3.5 mi. N Perry (1). Pottawatomie: 7 mi. S Tecumseh (1). Roger Mills: 5.2 mi. W Cheyenne (OKSU, 1); 7 mi. W Cheyenne (1); 4.5 mi. E Reydon (1); 2 mi. S, 4.5 E Reydon (1). Tillman: 4.5 mi. N, 0.5 W Tipton (1); 3 mi. S Davidson (MWSU, 1); 0.5 mi. N, 6 W Frederick (1). Woodward: 19 mi. SE Woodward (1); 9 mi. SE Woodward (1).

During at least the past six decades, evidence of porcupines east of Cimarron County has accumulated dramatically (Fig. 1). A total of only nine records-six from four southwestern counties and one each from Harper,

Roger Mills, and Latimer Counties-were known prior to 1960 (5,6, OKSU No. 2052). Since then, as of October 1, 1996, 200 more occurrences, 160 sightings and 40 specimens, have been recorded in 19 additional counties.

Woods (7) reported that porcupines seem to be confined to vegetated riparian habitats in most places where they occupy areas away from forests. Within recent years, major west-east riparian corridors through western Oklahoma seem to have been followed by porcupines as eastward dispersion routes. Among the 25 specimens with data at hand, 14 were taken in or near riparian areas. Of 48 specimen and sight records from Jackson and Tillman Counties, 28 were along the Red River or the North Fork of the Red River. The Elm and Salt Forks of the Red River in Jackson County have yielded 10 sightings and one specimen, and approximately 60 miles east of these streams, in Comanche and Cotton Counties, 17 sightings and five specimens are known along East Cache Creek.

Porcupines have access to upland regions via upstream dispersal along numerous tributaries of larger drainage basins, such as those mentioned above, where they can procure woody and herbaceous foods. When very far from wooded bottomlands, however, they must rely on alternative sources of food and cover, and in cultivated regions, porcupines may find sustenance in feed grains such as *Sorghum* spp. and other crops (8). Wherever available, shelterbelts offer some food and protection.

Although subsistence on native grasses and herbaceous plants has occasionally been noted (8), porcupines observed in prairie areas were probably enroute to more favorable habitats. Some sightings may represent waifs that were inadvertently rafted downstream during times of flooding. A preponderance of records are from the southwestern counties, a fact that may not be entirely attributable to observer bias. Taylor (8) mentioned that pods of mesquite (*Prosopis juliflora*) are a favorite porcupine food, and this tree occurs over much of southwestern Oklahoma. The Wichita Mountains, woodlands bordering the Washita River, numerous small streams, and the three main tributaries of the Red River also afford porcupines ample forage and protection in this part of Oklahoma.

In northwestern Oklahoma, numerous records occurred in or near bottomlands along the North Canadian River in Harper, Woodward, Major, Blaine, and Canadian Counties. There is additional evidence of *Erethizon* in those sections of Major, Kingfisher, and Logan Counties bordering the Cimarron River in north central Oklahoma.

Six specimens and three sightings are also available from nine counties in the Texas Panhandle (3,6,9-11), and eight specimens and four sightings are known for 12 counties in western portions of north central Texas (6,12-15).

Mead (16) wrote that in 1859 porcupines were very common on the streams between the Saline and Solomon Rivers of northwest and north central Kansas. Choate and Fleharty (17) used historical records to demonstrate that in the late 1800s, porcupines were native to Ellis and Russell Counties, and Kaufman (18) found a roadkill in Russell County in 1987. Sightings are also known in Clark County (L.E. Dunn, pers. comm.) and Morton County (photos, CUMZ 951a,b).

Explanations for increases in Oklahoma porcupine populations are conjectural. However, fire suppression this century has probably favored porcupine dispersal by promoting the widespread invasion of prairies by woody species, and long-term climatic changes are also known to influence mammalian distribution. For example, Frey (19) has shown that four boreal mammals, including two rodents, have expanded their ranges southward in the central Great Plains since the mid-1960s. During the ensuing three decades, average temperatures have fallen and mean precipitation has increased. Frey concluded that rather dramatic changes in the distribution of certain organisms can occur because of relatively minor climatic changes within a fairly short time span. These subtle changes of climate may also have encouraged the eastward spread of certain food plants favored

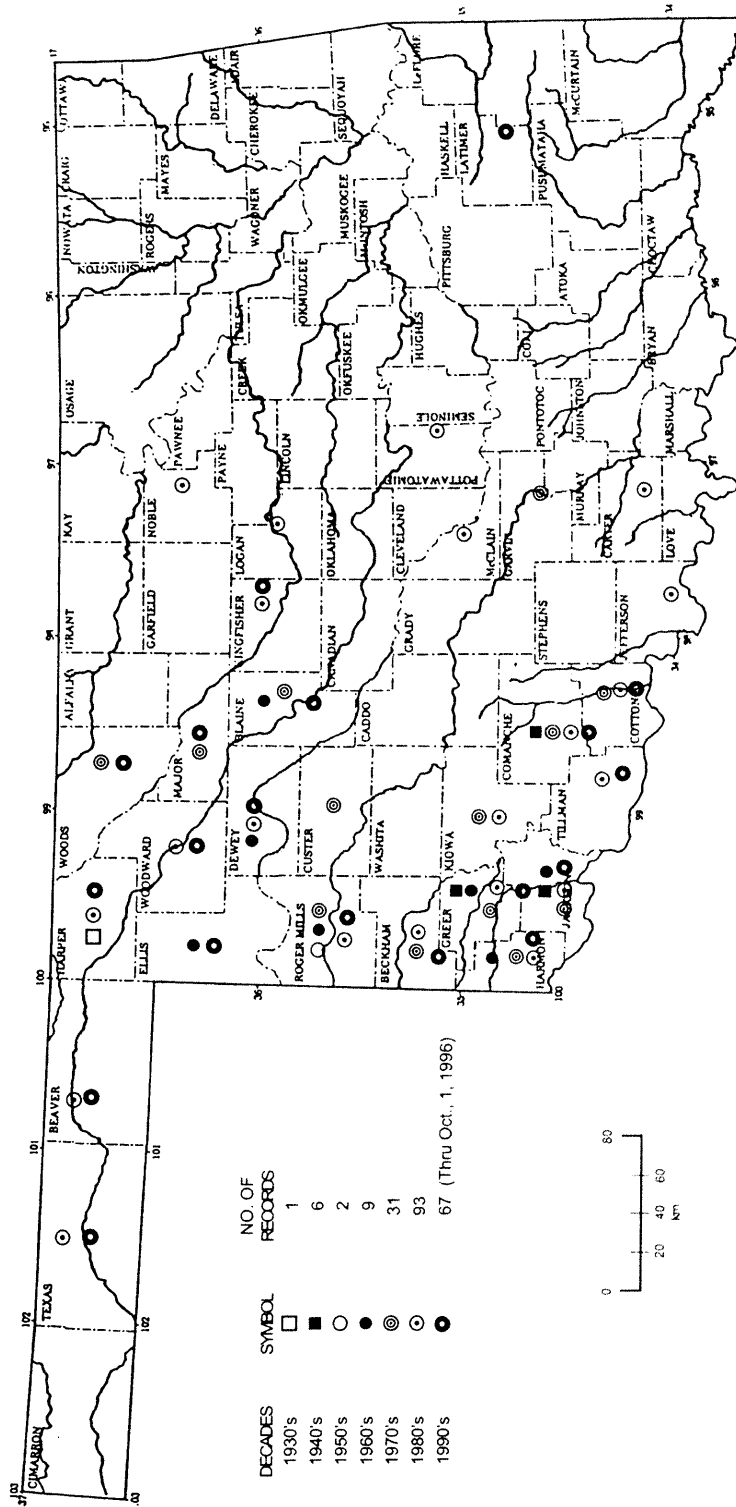


FIGURE 1. Records for porcupines east of Cimarron County, Oklahoma, 1932-96. An underlined county name indicates one or more specimens from that county.

by porcupines, especially along riverine corridors. During the past three decades, there has also been a definite trend in western Oklahoma toward increased plowing of native prairie, especially in the Panhandle (Tyler, pers. observ.). Much of this land has been planted to sorghum or corn, feed crops that could provide supplemental food for porcupines wandering eastward (8). In addition, much potential wildlife habitat on private lands has been restored or enhanced in recent years through the Conservation Reserve Program of the United States Department of Agriculture (20). Another factor to consider is that the major predators of *Erethizon*—gray wolves and mountain lions—have all but been eliminated from Oklahoma since early in this century (4).

If present trends continue, the porcupine may become a familiar animal in western Oklahoma. However, because of the scarcity of commercial timber there, its economic impact should be negligible.

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