

## New Records of the Porcupine, *Erethizon dorsatum*, (Rodentia: Erethizontidae) in Oklahoma.

William Caire, Brandon Smith, and Amy D. Estep

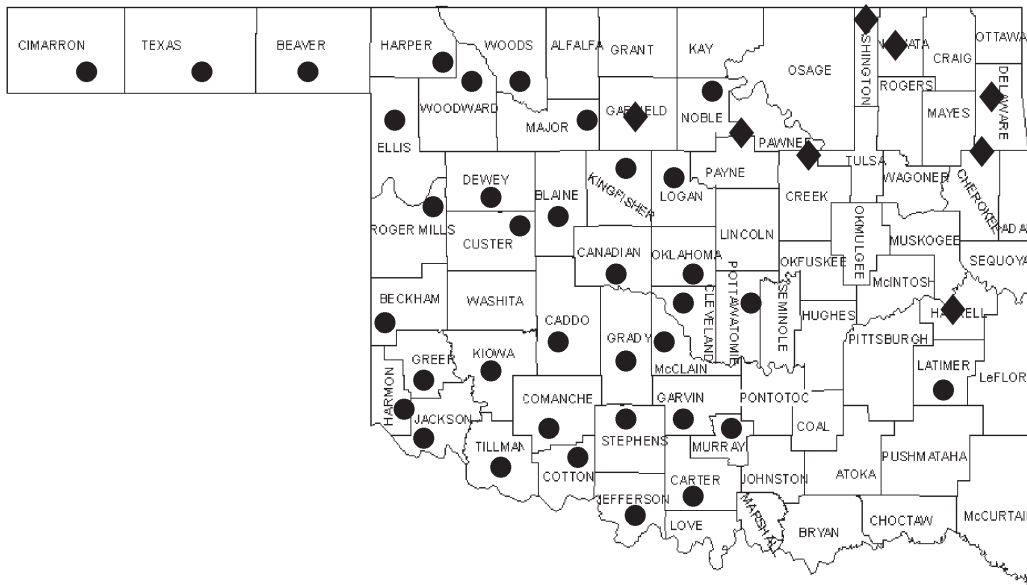
Biology Department, University of Central Oklahoma, Edmond, OK 73034

The porcupine, *Erethizon dorsatum*, has become more common in western and central Oklahoma since the 1970s (Tyler and Joles 1997; Tyler and Haynie 2001; Braun and Revelez 2005). Those accounts include discussions of all the records known from Oklahoma since Caire et al. (1989). Other than comments by Tyler and Joles (1997) of possible dispersal routes through the state and a few notes on food habits in Oklahoma, essentially all that has been recorded about *E. dorsatum* in the state are records of its occurrence in various counties and habitats: riparian areas (Tyler and Joles 1997; Tyler and Haynie 2001), prairie associations (Gelusio 1970), cliff and canyon habitats (Glass 1951) and sand-sage communities (Caire et al. 1989). Although there have been over 200 records of porcupines documented in Oklahoma, new county records continue to be reported. However, little has been recorded about their biology. This note reports on new county records for central and eastern Oklahoma and provides additional notes on reproduction, parasites and food habits.

A few scattered records of porcupines exist from central Oklahoma (Tyler and Joles 1997; Tyler and Haynie 2001; Braun and Revelez 2005). A survey of veterinarians (through the Oklahoma Veterinary Medical Association) and wildlife rehabilitators across Oklahoma has resulted in additional records from central counties and eight new county records (Cherokee, Creek, Delaware, Garfield, Haskell, Nowata, Payne, Washington). These extend the distributional range of the porcupine into northeastern Oklahoma (Fig. 1; Table 1).

The information below and the notes in Table 1 add to our understanding of the

biology of porcupines in Oklahoma. In May 2007, a female porcupine and its young were killed by a rancher, Robin Roof, in his yard (8.5 mi W, 2 mi N of Watonga, Blaine County) after an encounter with his dogs. The home is in a dense woodland (*Quercus* spp. and *Juniperus virginianus*) of a steep-sided valley. The bottom land is marshy – remaining wet for all but the driest months of the summer. There are numerous fallen logs where porcupines could shelter. External measurements of the adult female were: total length, 730 mm; length of tail, 228 mm; length of hind foot, 101 mm; length of ear, 44 mm; and weight, 6.5 kg. The young female porcupine's external measurements were: total length, 546 mm; length of tail, 165 mm; length of hind foot, 81 mm; length of ear, 19 mm; and weight, 3.2 kg. The adult female was lactating and swollen areas beneath its six nipples contained milk. Ticks removed from both the young and adult were identified as *Dermacentor* sp. (Marvin Mays; University of Central Oklahoma). Skulls of both specimens are deposited in the University of Central Oklahoma Collection of Vertebrates. In late June 2007, rancher Marian Eudy observed a porcupine while searching for blackberries in the blackjack-post oak forest that surrounds her home in north Canadian County (15 mi W of Okarche). Her dog had an encounter with the porcupine, and she removed numerous quills from the dog. In January 2008, Caire observed a porcupine in an elm tree (*Ulmus* sp.) outside Nesca-tunga Cave in Major County. Numerous girdlings (10-15 cm wide) down through the inner bark of several Western Soapberry (*Sapindus drummondii*) tree limbs revealed that porcupines were feeding. On the same day, a porcupine was observed in an elm



**Figure 1. Records of *Erethizon dorsatum* in Oklahoma. Records from Caire et al 1989; Tyler and Joles 1997; Tyler and Haynie 2001; 4 Brawn and Revelez 2005 are indicated by (●). New county records from a survey of Oklahoma veterinarians, wildlife rehabilitators and personal communications are indicated by an diamond (◆).**

(*Ulmus* sp.) in the vicinity of Merrihew Cave in Woods County. When disturbed, the animal retreated to a shallow burrow along the bank of a ravine. Porcupine scat has also been found in the Selman Cave System in Woodward County (Caire - personal observation) suggesting gypsum caves are used as retreats. In the Nature Conservancy's Four Canyons Preserve, and along roads adjacent to the preserve in Ellis County, Caire (in 2005: July - 2 adults, September - 1 adult, October - scat and in 2006: February - 1 adult, March - scat and tracks) noted porcupines in regrowth scrub-oak (*Quercus* spp.), near stock tanks in mixed grass prairie associations, and at canyon mouths opening onto the *J. virginianus*-mixed grass floodplains of the Canadian River.

These new Oklahoma records located on the eastern edge of the distribution range for porcupines are significant. Peripheral populations are important in conservation planning, genetic and evolutionary investigations, modeling patterns of species range collapse (Fraser 1999; Channell and Lomolino 2000), confirming whether por-

cupine dispersal is female biased (Sweitzer and Berger 1998) and testing of zoogeographical models during periods of minor or major climate change (Frey 1988; Cameron and Scheel 2001). Biologists are urged to record information (e.g. gender, relative age, parasites, food habits) from road killed or other specimens in order to provide a better understanding of the ecology and biology of porcupines in Oklahoma.

We extend our thanks to the **Oklahoma Veterinary Medical Association who sent out our request for information about porcupines in Oklahoma to its membership. We also thank all the wildlife rehabilitators who willingly supplied information about their encounters with porcupines in Oklahoma.**

## REFERENCES

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**Table 1. Records of *Erethizon dorsatum* from Oklahoma sources (veterinarians, wildlife rehabilitators and personal communications). New county records are indicated with an asterisk.**

COUNTY	DATES	SOURCES	COMMENTS
Beckham	2007, 2008	Jim Bentley, DVM Hobart	2 dogs (6 encounters each); 3 dogs (3 encounters each)
Blaine	Late 1980s to present	Justin McCrary, DVM Watonga	removed quills from dogs for over sixteen years; late 1980s only a few dog encounters; mostly farm dogs near Oakwood and Taloga; past five years more dogs, cattle and horses near Watonga & Kingfisher; increase in road killed porcupines
	June 2007	Amy Estep	road kill (2.5 mi W, 3.0 mi N of the junction of Blaine, Canadian and Kingfisher counties)
Canadian	Fall 2002	Marvin Denny, DVM El Reno	three yearling colt encounters; numerous dog encounters
	May 2008	Marvin Denny, DVM El Reno	road kill (4.5 mi N, 3.5 mi W Calumet)
	June 2005	Neil Garrison, Naturalist, Martin Park Nature Center, Oklahoma City (personal communication)	road kill (.75 mi east of intersection of Hwy 4 & Hwy 3); reported a neighbor shot a porcupine two years earlier that had a dog encounter
	October 2007	Rondi Large Wildcare Foundation, Rehabilitator Noble	2 dead juveniles from El Reno
	2008	Steve Holmes, DVM Yukon	several dog encounters; 5 to 6 mi NW Yukon
*Cherokee	July 2008	Anthony J. Stancampiano, Oklahoma City Community College, (personal communication)	road kill (west of Tahlequah on Hwy 62/10)
*Creek	June 2001	Brian Dougherty, DVM Sapulpa	1 dog encounter in town
*Delaware	May 2008	Kathy Dunaway-Knight DVM, Jay	relative reported porcupine under building near Jay
Ellis	November 2007 to May, 2008	Angie Prather, DVM Shattuck	1 dog encounter near Harmon; 4 dogs encounters near Gage; 1 dog encounter near Slapout
	October 2007 to November 2007	Angie Prather, DVM Shattuck	2 dog encounters near Shattuck; 1 calf encounter near Gage
*Garfield	August 2007	Julie Miller Wildlife Rehabber Enid	2 dogs encounters; southeast of Drummond
Greer	June 2007 October 2008	Jim Bentley, DVM Hobart	1 dog encounter; Granite 8 dog encounters ; Granite –several repeats with 5 dogs
Harper	May 2008	Angie Prather, DVM Shattuck	1 dog encounter near Slapout
*Haskell	Spring 1985	T.A. Falconer, DVM Haskell	1 dog encounter; 6 quills 1 dog encounter; ≈ 600 quills 5 mi N 2 mi E Stigler
Jackson	January 2006	Ronny Kiehn, DVM Altus	≈ 30 dog encounters; year around from various parts of county

COUNTY	DATES	SOURCES	COMMENTS
	1988 to present	John N. Thomas, DVM Altus	episodes have increased over last 20 years; used to be bird dogs near creeks; most were rural but now dogs inside Altus; ≈ 100 quills per dog
	October 2008	Jim Bentley, DVM Hobart	2 dog encounters; Blair
Kiowa	2006, 2007, October 2008	Jim Bentley, DVM Hobart	many repeat dog encounters; near, Lone Wolf, Hobart, Roosevelt, Mountain View, Snyder
*Nowata	1986, 2006	Rick Reid, DVM Nowata 2 mi. S Nowata	20 year separation in encounters 1 dog encounter; ≈ 50 quills;
Oklahoma	June, 2002	Leslie Cole, DVM Staff Veterinarian, Oklahoma Dept. Ag. Food, and Forestry	3 dog encounters with quills near rural Arcadia
	mid summer ≈ 1992	Rondi Large Wildcare Foundation, Rehabilitator Noble	2 juveniles; 1 died; 1 released in western Oklahoma
	October 2007	Rondi Large Wildcare Foundation, Rehabilitator Noble	adult porcupine; released at Great Salt Plains
	1992 to 1996	Nancy Worland, DVM Oklahoma City	≈ 1 to 2 dog encounters per year in Oklahoma or nearby counties; none in recent years
*Payne	1998, 2003	Gary Detrich, DVM Cushing	1 dog encounter each year; Cushing area
	2003	Sandra Morgan, DVM Ripley	first encounters in 32 years; 1 dog encounter; ≈ 100 quills 1 dog encounter; ≈ 30 quills Stillwater Creek near Mehan
Pottawatomie	November 2004	Rory Stricklin, DVM Shawnee	two dog encounter; ≈ 100-150 quills
Texas	1970s	Leslie Cole, DVM Staff Veterinarian, Oklahoma Dept. Ag. Food, and Forestry	observed porcupines in cottonwood trees along rivers
	1995-2002	Tandy Keenan Rehabilitator Waynoka; Naturalist, Alabaster Caverns State Park	12 dog encounters
	2006-2008	Don Heise, DVM	30 to 40 pet encounters in last 2 years
Tillman	1998 to present	Kenneth O'Hanlon, DVM Fredrick	65 dog encounters
*Washington	June 2007	Lindsay Franz, DVM Bartlesville	2 dog encounters; rural area S of Bartlesville
Washita	August 2007		
	October 2008	Jim Bentley, DVM Hobart	2 dog encounters; occasional cow encounter; Sentinal 2 dog encounters; Rocky
Woods & Woodward	2006-2007 Rehabilitator	Tandy Keenan Waynoka; Naturalist, Alabaster Caverns State Park	5 road kills

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