A New Record of and Additional Notes for the River Otter, *Lontra canadensis,* from Logan County, Oklahoma

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River otters, *Lontra canadensis*, were at one time found across most of Oklahoma. What little is known about the historical distribution in the early 1800s and 1900s in Oklahoma has been summarized by Blair and Hubbell (1938), Duck and Fletcher (1944), Bissonette and Maughan (1978), Hatcher (1984), Caire et al. (1989), Oklahoma Department of Wildlife Conservation (2008), Barrett (2008) and Barrett and Leslie (2010). The Oklahoma Game and Fish Department (1952) reported that otters were very rare or had been extirpated in most areas of Oklahoma by 1952 (Caire et al., 1989). Early historical reports are scarce and scattered across the state but include the Red River (Marcy, 1854), Muskogee County (Foreman, 1926), Comanche County (Conover, 1927), Caddo County (Nice, 1931), Woodward County (Blair, 1939) and Kiowa County (Halloran and Glass, 1964). In an attempt to reestablish the river otter in Oklahoma, on 21 March 1984, 5 male and 5 female otters were released into the Wister Wildlife Management Area in LeFlore County and in April 1985 seven otters (4 males and 3 females) were released into the McGee Creek Wildlife Management Area in Atoka County by the Oklahoma Department of Wildlife Conservation (Barrett, 2008). Over a two-year period in the mid-late 1990s, 22 river otters were reintroduced into the Wichita Mountains Wildlife Refuge in Comanche County (Barrett, 2008). Other reports (Hatcher, 1984; Base, 1986; White and Hoagland, 1997; Barrett, 2008) suggest the reintroductions have been successful and that the river otter distribution in Oklahoma is spreading westward, with specimens from Cleveland County preserved in the Sam Noble Museum of Natural History collections. A map in Barrett and Leslie (2010) suggests the presence of river otters in Kingfisher County based on USDA Animal and Plant Health Inspection Service capture reports for 2004. On 13 February 2016, an adult male river otter, *L. canadensis*, was found dead on Oklahoma State Highway 33, 0.8 km N of Coyle. The coordinates of the specimen location are 35°57’50.1”N 97°14’10.3”W; elevation 265 m. From where the otter was found dead on the road to the western edge of the Cimarron River is 0.5 km. The habitat along the river near this locale is dominated by willow (*Salix*), cottonwood (*Populus deltoides*) and tamarisk (*Tamarix*).

This is the first record of an otter from Logan County and in north central Oklahoma. There are no reports of otters being taken from Logan County from 2008 to 2016 (ODWC). The nearest known reports are from Cleveland County (Barret and Leslie, 2010).

The male otter is deposited in the University of Central Oklahoma Natural History Museum (UCONHM 7158). External measurements were total length, 119 cm; length of tail, 47 cm; length of body, 72 cm; length of hind foot, 12.5 cm; length of ear, 2.3 cm; weight, 10.6 kg. In addition to skin and skeletal remains, internal organs and contents were preserved in alcohol and tissue samples (lung, kidney, heart, muscle) were preserved in the UCONHM frozen tissue collection. The animal had been run over by a vehicle, the back broken and the skull completely crushed.

Reproductive data for river otters in Oklahoma is scant. This scrotal male specimen had testes lengths of 52 mm (right) and 55 mm (left). Hamilton and Eadie (1964) used the length of the testes to estimate the age of otters in New York. Length of testes of males 3 years or older are reported to range from 30–36 mm during March and April and 35–50 mm in November and December and based on these values, this otter would have been at least 3 years old. Friley (1949) separated males into four age groups based on the baculum size. The baculum measured 100 mm in length, and weighed 7.4 g., which placed it in Friley's (1949) older adult male category.

Barrett and Leslie (2012) noted that the age of river otters decreased from east-to-west and colonizing populations to the west had a higher proportion of younger individuals. Not having a large sample of otters or any data as to how long this otter had been in Logan County precludes discussion of whether this was an established resident or an older instead of younger colonizing individual.

Descriptions of the internal anatomy of river otters from Oklahoma are few. The length of river otter trachea has been described as intermediate between that of terrestrial carnivores and marine mammals and a shorter trachea facilitates air exchange and increases lung ventilation in diving mammals (Tarasoff and Kooyman, 1973b). The mean tracheal length of river otters is reported as 15.3 cm, or 23.2% of the body length (Tarasoff and Kooyman, 1973b; Lariviere and Walton, 1998). However, the length of trachea in this river otter was 21.1 cm (measured from the top of the forking of the branching of the bronchi to the rim of the trachea below the bottom of epiglottis). This is 29.2% of the body length and considerably longer than reported for river otters elsewhere (Lariviere and Walton, 1998). We know of no other measurements of tracheal length of river otters from Oklahoma. The lobes of the lungs match the descriptions presented in the literature (Tarasoff and Kooyman, 1973a). They are triangular in shape, and there are four lobes in the right lung (cranial, middle, caudal, and accessory) and two in the left (cranial and caudal). After combing and brushing the fur, the only ectoparasites found were several sucking lice. However, Kimber and Kollias (2000) indicated ectoparasites on river otters are rare. The length of the small intestine was 35 cm and the large intestine was 26.6 cm. The kidneys were reniculated and similar in gross morphology as reported by Baitchman and Kollias (2000).

Fish have been reported as a common diet item of river otters (Knudsen and Hale, 1968; Reid et al., 1994). Hatcher (1984) reported the stomach and intestine contents of two otters from Latimer County contained crayfish, newts (*Notophthalmus viridescens*), an unidentified fish, and a gastropod. Shackelford and Whitaker (1997) reported piles of fish scales at river otter feeding sites in Oklahoma. We examined the stomach and intestinal contents of this otter and it contained numerous fish scales (Centrarchidae).

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References

Baitchman EJ, Kollias GV. 2000. Clinical anatomy of the North American river otter (*Lontra canadensis*). J Zoo and Wildlife Med 31:473-483.

Barrett DA. 2008. Status and population characteristics of the northern river otter (*Lontra canadensis*) in central and eastern Oklahoma. (MSc thesis). Stillwater (OK): Oklahoma State University. 32 p. Available from: OSU Library.

Barrett DA, Leslie DM Jr. 2010. Current distribution of North American river otters in central and eastern Oklahoma, with seven new county records. Occas Papers Nat Sci Res Lab Texas Tech Univ 294:1-13.

Barrett DA, Leslie DM Jr. 2012. Spatio-temporal variations in age structures of partially re-established populations of northern river otters (*Lontra canadensis*). Amer Midl Nat 168:302-314.

Base DL. 1986. Evaluation of experimental reintroduction of river otters in Oklahoma. Unpublished report, Oklahoma Department of Wildlife Conservation Nongame Wildlife Program, Oklahoma City (OK): 40 p.

Bissonette JA, Maughan OE. 1978. Southeastern Oklahoma coal investigation: endangered species. Project No. 14-16-002-77-080: U.S. Fish and Wildl Ser. 101p.

Blair WF. 1939. Faunal relationships and geographic distribution of mammals in Oklahoma. Amer Midl Nat 22:85–133.

Blair WF, Hubbell TH. 1938. The biotic districts of Oklahoma. Amer Midl Nat 20:425-454.

Caire W, Tyler JD, Glass BP, Mares MA. 1989. Mammals of Oklahoma: Norman (OK): Univ Okla Press. 567p.

Conover GW. 1927. Sixty years in southwest Oklahoma: Anadarko, (OK): N. T. Plummer, Printer. 119 p.

Duck LG., Fletcher JB. 1944. A survey of the game and furbearing animals of Oklahoma. Oklahoma Game and Fish Commission, Oklahoma City State Bull 3:1–44.

Foreman G. 1926. Pioneer days in the early southwest: Cleveland (OH): Arthur H. Clark Co. 334p.

Friley CE. 1949. Age determination by use of the baculum in the river otter, *Lutra canadensis*. J Mam 30:102–110.

Halloran AF, Glass BP. 1964. Additional mammal notes from the Wichita Mountains region of Oklahoma. Proc Okla Acad Sci 44: 56-58.

Hamilton WJ, Eadie WR. 1964. Reproduction in the otter, *Lutra canadensis*. J Mam 45:242-252.

Hatcher RT. 1984. River otters in Oklahoma. Proc Okla Acad Sci 64:17–19.

Kimber KR, Kollias GV. 2000. Infectious and parasitic diseases and contaminant-related problems of North American river otters (*Lontra canadensis*): A review. J Zool and Wildl Med 31:452–472.

Knudsen KF, Hale JB. 1968. Food habits of otters in the Great Lakes region. J Wildl Manag 32:89-93.

Lariviere S, Walton LR. 1998. *Lontra canadensis*. Mammalian Species Account, J Mam 587:1-8.

Marcy RB. 1854. Exploration of the Red River of Louisiana in the Year 1852: Washington (D.C.). A. O. P. Nicholson, Pubic Printer. 368p.

Nice MM. 1931. The Birds of Oklahoma. Revised Edition. Publ Univ Okla Bio Sur 3:1-224.

Oklahoma Game and Fish Department. 1952. Furbearers and game mammals of Oklahoma. Oklahoma City, OK.

Oklahoma Department Wildlife Conservation. 2008. Status and population characteristics of the northern river otter (*Lontra canadensis*) in central and eastern Oklahoma. Final Report. Federal Aid Grant No. W-158-R.

Reid DG, Code TE, Reid ACH., Herrero SM. 1994. Food habits of the river otter in a boreal ecosystem. Canadian J Zool 72:1306-1313.

Shackelford J, Whitaker J. 1997. Relative abundance of the northern river otter, *Lutra canadensis*, in three drainage basins of southeastern Oklahoma. Proc Okla Acad Sci 77:93–98.

Tarasoff FJ, Kooyman GL. 1973a. Observations on the anatomy of the respiratory system of the river otter, sea otter, and harp seal. Part I. The topography, weight, and measurements of the lungs. Canadian J Zool 51:163–170.

Tarasoff FJ, Kooyman GL. 1973b. Observations on the anatomy of the respiratory system of the river otter, sea otter, and harp seal. Part II. The trachea and bronchial tree. Canadian J Zool 51:171–177.