

ARTICLE

**FIRST PHYSICAL EVIDENCE OF THE NEARCTIC RIVER  
OTTER (*LONTRA CANADENSIS*) COLLECTED IN NEW  
MEXICO, USA, SINCE 1953**

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(received 2<sup>nd</sup> March 2005, accepted 4<sup>th</sup> March 2005)

On 3 November 2004 between the mouths of Grassy and Albino Canyons of Navajo Reservoir and on the east bank of the Los Pinos arm, 16.2 Km N. and 1.3 Km E. of the village of Navajo Dam, San Juan County, New Mexico, three presumptive river otter (*Lontra canadensis*) scats (or spraints in British English) were found; two new and one old scat. Scats ranged from 12 to 20 mm in diameter and varied in hue from white to tan. Scats were compared to drawings and photos of MURIE (1974) and HALFPENNY (1986). No river otter tracks (or seals in British English) were observed at this location.

The scats were found on a small spit of dried and cold mud, a substrate not conducive to receiving fresh tracks. The spit was positioned across the arm from a small point. Sandstone rim rock formed the sides of the box canyon about 305.8 m wide and approximately 182.9 m deep. Water depth and width was about 3.7 m and 9.1 m, respectively. Early successional vegetation in the area consisted of plants such as: red willow (*Salix exigua*), salt cedar (*Tamarisk pentandra*), cocklebur (*Xanthium* sp.), low grass (Poaceae), and a lone cottonwood (*Populus deltoides*).

The scats contained remnants of crayfish exoskeleton and fish bones and scales. Skeletons of old flathead catfish (*Pylodictis olivaris*) were observed at the scat site and those of fresh kokanee salmon (*Oncorhynchus nerka*) (discarded by fisherman after cleaning their fish) were found and at a nearby marina at Pine Site, Navajo Lake State Park. Live common carp (*Cyprinus carpio*) and gambusia (*Gambusia affinis*) were observed as well.

Tracks of other commensal animals such as beaver (*Castor canadensis*), ringtail (*Bassariscus astutus*), mountain lion (*Puma concolor*), black bear (*Ursus americanus*), gray fox (*Urocyon cinereoargenteus*), and mule deer (*Odocoileus hemionus*) were observed on the east bank in the vicinity (< 40 m) of the presumptive

otter scat. Tracks of cattle (*Bos taurus*) were found on the opposite bank. Birds observed on site and on the outgoing and return trips included: the American coot (*Fulica americana*), great blue heron (*Ardea herodias*), common merganser (*Mergus merganser*), Canada goose (*Branta canadensis*), mallard (*Anas platyrhynchos*), white pelican (*Pelecanus erythrorhynchos*), and gulls (*Larus* spp.). All these species are considered piscivorous and/or aquatic bird species indicating good quality otter habitat (POLECHLA, 2002b).

Without corroborating sign or evidence, separation of river otter scat from raccoon (*Procyon lotor*) is difficult if raccoons abstain from plant material (e.g., fruits) and switch to/or subsist on crayfish and fish. The later two food items are the preferred and almost exclusive prey of river otters (MELQUIST et al., 2003). Because tracks were not found associated with the presumptive otter scat due to frozen/hard substrate, a DNA analysis was performed to confirm or refute field identification.

Extraction of DNA from the three scats and one negative control (no DNA source) was performed following manufacturers protocol for the QIAamp DNA Stool Mini Kit (Qiagen, Inc., Valencia, California), with modifications described by HARRISON et al. (2002). Polymerase Chain Reaction (PCR) was used to amplify the cytochrome *b* region of mitochondrial DNA using primers L14724 or L15513 and H15915 (IRWIN et al., 1991). Reaction conditions and cleanup procedures followed those of Harrison et al. (2002). Cleaned PCR products were sequenced using BigDye™ Terminator Cycle Sequencing Ready Reaction mix (Applied Biosystems, Inc., Foster City, CA) and either of the forward primers (L14724 or L15513), and the reverse primer (H15915). Sequences were determined by running samples on an ABI 3100 Automated DNA Sequencer, and then submitted to an NCBI Nucleotide-nucleotide BLAST search (<http://www.ncbi.nlm.nih.gov/BLAST/>) for sequence identification.

Two of the three scats provided enough quantity and quality DNA for cytochrome *b* amplification and sequencing and were identified based on 412 and 236 nucleotides. BLAST search results showed both samples to be most similar (99%) to *L. canadensis* sequence provided by KOEPFLI and WAYNE (1998). Additionally, the first scat sample was 89% similar to the Neotropical otter (*L. longicaudis*) and the marine otter or chungungo (*L. felina*) and 87% similar to the sea otter (*Enhydra lutris*). The second sample was 90% similar to *L. longicaudis* and *L. felina* and 85% similar to the Eurasian otter (*Lutra lutra*).

The river otter is a native member of the New Mexican fauna (Polechla et al. 2000). However, the first and heretofore only voucher specimen (*Lontra c. sonora*) from the state was collected in 1953 by T. J. Lyon (McCLELLAN, 1954). In addition to this single museum skin specimen, housed at the Museum of Southwestern Biology (MSB), numerous sightings and reports of otters in New Mexico have been recorded (BAILEY, 1931, POLECHLA et al., 2000). More recently, Mr. Lyon reported seeing signs of otter years after collection of the 1953 specimen (Lyon fide J.

Hubbard pers. comm.). A Dr. A. Daggett (personal communication) reported observing an otter in the summer (late August-early September) of 2001 in Canyon Bancos, 7.4 straight-line Km S. (= 10.2 Km by waterway) of the Colorado/New Mexico State Line, Rio Arriba County, New Mexico. The description of the animal's appearance and swimming behavior were typically river otter in nature. It was described as "long, sleek, slender and very maneuverable," with a head and body length as about "2 feet" with a "tail about 1/3 of the head and body length". The animal "[circled the] boat twice before it swam off down the shoreline," while its tail circumscribed a "snakelike or sigmoid pattern" in the water. These characteristics rule out other of the state's mammalian species including the semi-aquatic beaver, coypu (*Myocastor coypu*), muskrat (*Ondatra zibethicus*), and mink (*Mustela vison*).

Additionally, two otter specimens have been collected and prepared from the San Juan drainage system just on the other side of the border in Colorado (Polechla 2002b, 2003). These specimens were provided by S. Wait of the Colorado Division of Wildlife (CDOW) for deposition at MSB. These specimens consisted of a male, collected on 17 March 2003 on the Los Pinos River about 2.1 Km E. and 3.2 Km S. Columbus, La Plata County, Colorado at an elevation of 2,195 m, and a female, collected on 16 September 1996 on Vallecito Creek, 0.8 Km N. of Vallecito Reservoir, La Plata County, Colorado at an elevation of 2,347 m.

A study was completed in the San Juan drainage of Colorado, in which river otters were documented in a place where native otters had been previously reported and where they had been translocated from Wisconsin, an unidentified state in the U.S., and Nova Scotia (H. Browning personal communication 2002, POLECHLA, 2002b). BICH (1988) reported otters in the San Juan and Colorado drainages of Utah prior to translocations. Since one of four subspecies of river otters (HALL, 1981, POLECHLA, 2002b) may be suspected (*L. c. canadensis*, *L. c. lataxina*, *L. c. pacifica*, *L. c. sonora*), the subspecific designation of our specimens will require further analysis.

FINDLEY et al. (1975) stated that otters "may well be extinct in the state." In 1985, the NMGFD declared the river otter apparently extirpated in New Mexico (JONES and SCHMITT, 1997) although no field surveys were conducted for otters. This opinion has been repeated in the literature (FREY, 2004; BISON-M, 2004; SAVAGE, 2004, FRIENDS OF THE RIVER OTTER, 2005). Our record of a river otter scat in New Mexico constitutes the first time that physical evidence of otters has been documented in over 50 years. In addition, this constitutes the second collection of physical evidence of otter in the state to date.

Other species of otters and carnivores were once thought to extirpated or extinct. By 1911, scientists regarded the southern sea otter (*Enhydra lutris nereis*) as extinct (FISHER et al., 1969) until 300 sea otters were "discovered" along Big Sur coast, California (MATTISON, 1971; KENYON, 1969). However, undocumented observations of southern sea otters were reported during this intervening 27 years (KENYON, 1969). In similar fashion, the hairy nosed otter (*Lutra sumatrana*) was

summarily regarded as extinct (ECOLOGICAL RESEARCH DEPARTMENT, 1991; KANCHANASAKA, 2002; Otter Net 6 February 2005 <http://www.otter.org/news/news29.html>.) until they were “rediscovered” in Thailand from 1998 to 2000 (KANCHANASAKA, 2002). In 1904, the jaguar (*Panthera onca*), a large diurnal charismatic mega-mammal, was thought to be extirpated from New Mexico, until GLENN (1996) using hounds bayed one in the Peloncillo Mountains on the Arizona/New Mexico border. These species were thought to be extirpated or extinct until actual field surveys were conducted in earnest.

With less than 5% of the river miles properly surveyed in New Mexico and very little surveyed in the Rio Grande, Colorado, and Arkansas River drainages in neighboring Texas, Mexico, Arizona, Utah, Wyoming, California, Nevada, and Colorado (POLECHLA, 2002a,b; 2004, DEPUE and SCHNURR, 2004), plans for translocating otters may be premature. Until the majority of the river miles (and shoreline) of habitat is surveyed, by biologists experienced with tracking otters and other New Mexican fauna, for river otters during the seasonal peak of otter sign abundance, then a river drainage should be regarded as potentially possessing otters. Simultaneous to these river otter surveys, the majority of potential habitat should be surveyed as well (POLECHLA et al., 2000). RALLS (1990) recommends that an effective otter restoration program in a particular watershed involve an assessment of current suitability of habitat and the removal of the factor(s), which contributed to the decline of the population.

**Acknowledgement** - We acknowledge the Department of Biology and the Mammal Division of the MSB at University of New Mexico for generously providing laboratory facilities under the auspices of W.S. Gannon and J.A. Cook. The New Mexico State Parks Department provided transportation. S. Wait of CDOW provided river otter carcasses. H. Browning and J. Hubbard shared with their recollections on otters. J. Daggett graciously provided his otter observation. K. E. Moore reviewed an earlier draft of this manuscript. Special thanks goes to P. J. Polechla Sr. and V. B. Polechla for providing inspiration to the senior author to conduct the studies regarding river otters in the arid southwest.

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