Range Extension of the Northern Long-eared Bat (*Myotis septentrionalis*) in the Yukon

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Source: Northwestern Naturalist, 89(2):115-117. 2008.
Published By: Society for Northwestern Vertebrate Biology
DOI: http://dx.doi.org/10.1898/1051-1733(2008)89[115:REOTNL]2.0.CO;2
URL: http://www.bioone.org/doi/full/10.1898/1051-1733%282008%2989%5B115%3AREOTNL%5D2.0.CO%3B2

tings in place until dried *before* removing them for storage. Why such fully developed haying behavior has been found only at this location is unclear, but the influence of environmental factors such as length of growing season and den microclimate might be worth investigating.

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NORTHWESTERN NATURALIST 89:115–117 AUTUMN 2008

RANGE EXTENSION OF THE NORTHERN LONG-EARED BAT (*MYOTIS SEPTENTRIONALIS*) IN THE YUKON

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Key words: distribution, Northern Long-eared Bat, *Myotis septentrionalis,* Yukon

Bats have not been well surveyed in higher latitudes of northwestern North America (such as ≥55°N; Parker and others 1997; Jung and others 2006). As such, our knowledge of the diversity and distribution of bats in this vast region is limited, although focused surveys by a handful of researchers has yielded surprising results in recent years. For example, Parker and Cook (1996) recently reported the 1st record of Keen's Long-eared Bat (*Myotis keenii*) in Alaska, and Lausen (2006) reported 1st records of the Western Long-eared Bat (*Myotis evotis*), Long-legged Bat (*Myotis volans*), Big Brown Bat (*Eptesicus fuscus*), and the Eastern Red Bat (*Lasiurus borealis*) in the Northwest Territories. In the Yukon, Jung and others (2006) recently reported the 1st record of the Northern Long-eared Bat (*Myotis septentrionalis*). Much of the Northwest Territories and the Yukon have yet to be surveyed for bats, indicative of how much work is still needed to better understand the distribution of bats in the higher latitudes of northwestern North America (Jung and others 2006; Lausen 2006). Herein, we provide a range extension for the Northern Long-eared Bat in the Yukon.

During a survey of bats along the Alaska Highway in southern Yukon, we captured bats in mist-nets strung between poles varying in

TABLE 1. Age, sex, reproductive status, morphometrics, and presence of a keel on the calcar of *Myotis septentrionalis* ($n = 5$) captured at Tom Creek, southeastern Yukon, 18 July 2007.

Field I.D.	Sex	Age	Reproductive Status	Forearm Length (mm)	Ear Length (mm)	Tragus Length (mm)	Mass (g)	Keel on Calcar
TC-01	female	adult	lactating	37.5	16.0	10	8.8	small
TC-02	female	adult	lactating	38.0	16.0	10	8.8	small
TC-03	female	adult	lactating	37.3	15.5	10	8.9	none
TC-04	female	adult	non-reproductive	35.3	15.0	10	7.7	none
TC-05	male	adult	non-reproductive	37.9	15.5	10	7.3	none

height from 2.5 to 5.0 m. Nets were placed along small forest trails, across narrow roads and rivers, and over small ponds and puddles in the forest. On 16 to 18 July 2008, we set mistnets ($n = 7$ to 14/night) at 3 sites near Watson Lake, Yukon. On 18 July 2007, we captured 5 Northern Long-eared Bats at Tom Creek (60.183°N, 129.036°W), near its confluence with the Liard River, 22 km NW of Watson Lake, Yukon. One bat was an adult male and the remaining 4 were adult females, 3 of which were lactating and the other was non-reproductive. Two non-reproductive adult female Little Brown Bats (*Myotis lucifugus*) were also captured on the same evening at this location.

Bats were captured along a narrow forest access road that bisected riparian boreal forest. The capture site was within the Boreal Cordillera Ecozone (Ecological Stratification Working Group 1995). Topography was rugged and rolling, and climate was continental, with long cold winters and cool summers. Tree species primarily consisted of mature to old-aged White Spruce (*Picea glauca*) and Balsam Poplar (*Populus balsamifera*), with the occassional patch of Tamarack (*Larix laricina*) or Trembling Aspen (*Populus tremuloides*).

Species of Long-eared Bats are difficult to distinguish among one another in the hand (van Zyll de Jong 1979), but comparatively easy to distinguish from Little Brown Bats, the numerically dominant species of bat in southern Yukon (Jung and others, unpubl. data). Captured bats were examined for external diagnostic characteristics according to van Zyll de Jong (1985) and Nagorsen (2002), including presence of dark shoulder patches in the pelage, ear length, hair on the trailing edge of the uropatagium, presence of keeled calcar, and relative length and shape of the tragus. We measured forearm length, ear length (pinnae and tragus), and mass, and determined age as per van Zyll de Jong (1985). Reproductive status of females was determined by light palpation of the abdomen to detect presence of a fetus, observing worn fur around the teats, and attempting to express milk from the teats.

All bats that we identified in the field as Northern Long-eared Bats had a pointy tragus, did not have a fringe of hair on the uropatagium, and lacked dark shoulder patches, differentiating them from other species of Long-eared Bats (*M. keenii* and *M. evotis*; Nagorsen 2002), which are not known from the Yukon (Jung and others 2006). Morphometric data are provided in Table 1. No voucher specimens were procured; rather, we used a 2.0-mm biopsy punch to remove a small sample of wing tissue for DNA sequencing to verify our field identifications. Two fragments of the 16S ribosomal subunit gene in the mitochondrial DNA were sequenced at Portland State University (Portland, Oregon) following the protocols of Zinck and others (2004). Genetic analyses confirmed that all 5 individuals identified in the field as Northern Long-eared Bats were recognized correctly.

These captures represent the 2nd record of Northern Long-eared Bats in the Yukon, and provide a western range extension of about 270 km from where the species was 1st recorded in the Yukon by Jung and others (2006), and in an area that Caceres and Barclay (2000) speculated was within the distribution of the Northern Long-eared Bat. The location is approximately 170 km northwest of where Wilkinson and others (1995) reported finding a colony in an abandoned cabin on the Smith River in northeastern British Columbia, 29 km WNW of Liard Hot Springs (59.420°N, 126.115°W). Unfortunately, they did not take a voucher specimen or DNA sample to verify their field identification, and Bradbury and others (1997) and Vonhof and others (1997) returned to this cabin in 1996 and

1997, respectively, and reported a colony of Western Long-eared Bats.

This range extension supports the hypothesis of Jung and others (2006) that the Northern Long-eared Bat is possibly widespread throughout the Liard River Watershed. Records of the species in the Northwest Territories (Lausen 2006) and northeastern British Columbia (Wilkinson and others 1995; Bradbury and others 1997; Vonhof and others 1997; Vonhof and Wilkinson 1997) are also from the Liard River Watershed. Our record is also of interest because it confirms a breeding population in the Yukon; Jung and others (2006) caught only adult males at the LaBiche River site.

While our knowledge of the diversity and distribution of bats in northwestern North America is increasing, our knowledge of the distributions of bat species in the region remains unresolved and largely based on incidental captures rather than directed surveys. Further directed surveys are needed to document the distribution and population status of the Northern Long-eared Bats and other species of bats in the Yukon and elsewhere in northwestern North America (Parker and others 1997; Jung and others 2006; Lausen 2006).

Acknowledgements.—We thank Becky Cadsand and Reid Kennedy for field assistance. Dr. Jan Zinck kindly conducted the genetic analysis. Funding for this work was provided by the Yukon Department of Environment, Yellowstone to Yukon Conservation Initiative, NatureServe Yukon, Northern Research Institute, and Parks Canada. We thank Laura Friis for helping get our wing punches processed in a timely manner. We thank Paul Cryan and two anonymous reviewers for reviewing an earlier draft of the note.

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NORTHWESTERN NATURALIST 89:118 AUTUMN 2008

UNUSUAL ROOSTING SITE OF AMERICAN COOTS (*FULICA AMERICANA*) IN SOUTHEASTERN BRITISH COLUMBIA

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Key words: American Coot, *Fulica americana,* roosting, migration, Kootenay Lake, British Columbia

American Coots (*Fulica americana*) use wetland habitats throughout the year for nearly all their activities, including feeding, resting, and breeding. Most Canadian breeding populations are migratory. Coots are believed to migrate primarily at night, either individually or in loose flocks, and stop during the day to rest and feed [BRISBIN IL, MOWBRAY TB. 2002. American Coot (*Fulica americana*). In: Poole A, Gill F, editors. The Birds of North America, No. 697. Philadelphia, PA. 44 p.]. Roosting behavior during migration has not been described. Reported night-time roost behavior at other seasons includes floating among emergent cover or on open water, usually in large flocks (Brisbin and Mowbray 2002).

On 27 October 2004, I discovered an unusual daytime roost for 3 American Coots at the mouth of Kokanee Creek, on Kootenay Lake in southeastern British Columbia. As I walked along the shoreline of the lake at approximately 10:30, a single coot flushed nearly at my feet, from under vegetation overhanging an earthen bank that was less than 0.4 m high. Inspecting the area, I found a hole in the bank at the spot the coot had appeared. Over the next several minutes, 2 more coots exited the hole. A lodge created by Beaver (*Castor canadensis*) was 7 m away and the hole used by the coots was likely an old beaver burrow.

Because American Coots are not present during the summer on this part of Kootenay Lake (JEA pers. obs.; Nelson Naturalists 1997, *Kokanee Creek Provincial Park Bird Checklist*) and the 3 birds were observed roosting during daylight, I believe they were migrants. There is little emergent vegetation in the area and perhaps this lack of cover caused the coots to seek protection in the burrow while they rested. There are no previously published reports of American Coots using an underground roost.

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