

## Notes

### The Brown Lemming, *Lemmus sibiricus*, in Alberta\*

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A specimen of a Brown Lemming, *Lemmus sibiricus*, found in Willmore Wilderness Park, Alberta, confirms the existence of the species in the province.

Key Words: Brown Lemming, *Lemmus sibiricus helvolus*, confirms, Alberta.

Until recently no specimens, fossil or modern, of the Brown Lemming had been known from Alberta. Burns (1980) described finding fossil evidence of this species in a late Pleistocene cave deposit at January Cave, southwestern Alberta, with an age between 23 000 BP and 1400 BP. Preble (1908: 182) gives the type locality for the subspecies, *Lemmus sibiricus helvolus*, as "from near the headwaters of one of the southern tributaries of Peace River, or between there and the Jasper House region." Subsequent authors have used this description and on the basis of it Soper (1964) included Alberta in the range of this subspecies, while others have not (Cowan and Guiguet 1965; Banfield 1974). Hall (1981: 829) is not definite. On the range map that shows the distribution of this species Alberta is not included, but in the Marginal Records section he states "also possibly Alberta: ?Rocky Mountain region of northwestern Alberta."

The confusion as to whether to include Alberta or not stems, we believe, from Preble's 1908 account for this species. Richardson (1828) first described the species on the basis of a specimen collected by Mr. Drummond in the "Rocky Mountains." In 1829 Richardson gave a further description of the location as "inhabiting alpine swamps, in latitude 56°" (Richardson 1829: 129). How Preble (1908) determined the type locality is not stated in his account, although he refers to Richardson's original description.

Recently one of us (EJE), while surveying Caribou (*Rangifer tarandus caribou*) by helicopter in Willmore Wilderness Park (Figure 1), had occasion to land near a small unnamed lake in the Park. While there, several bodies of a small rodent were observed washed up on shore. Twenty-one carcasses were

counted. These animals were identified in the field as lemmings and one carcass was collected and brought to the Provincial Museum of Alberta for verification. The specimen, an adult male, was identified as *Lemmus sibiricus*. It is preserved in the Provincial Museum of Alberta collections as a skeleton (PMA No. 83.32.1). This specimen confirms the presence of this species in Alberta.

*Lemmus sibiricus* populations exhibit cyclic periods of abundance and scarcity (Rausch 1950; Krebs 1964). During periods of abundance individuals may swim lakes and rivers (Cowan and Guiguet 1965). This may account for the bodies that were observed on the lake shore.

The lake where this specimen was found is located in a remote area of Willmore Wilderness Park (53°32'N, 119°24'W) at an elevation of 1500 metres (5 000 feet). The lake drains into a small creek that feeds into the Smoky River and eventually into the Peace River. The sandy beach on which the lemmings were found was bordered by a hummocky, dwarf shrub-sedge meadow. This meadow was an opening in the Lodgepole Pine (*Pinus contorta*)/Engelmann Spruce (*Picea engelmannii*) subalpine forest and was approximately 4 km downstream from treeline.

It is interesting to note that Soper (1970) postulated that if Brown Lemmings occurred in Alberta, they would be found south of the source of the Kakwa River or Sheep Creek. This is approximately the area where the present specimen was obtained. It is hardly surprising that this species has not been encountered in Alberta before, considering the remote area in which it is found and the periodic fluctuation in population size known in this species. For example, as part of the ecological land classification study of Banff and Jasper National Parks (1974 to 1981) 330 snap trap-lines (66 000 trap nights) were run and no Brown Lemmings were trapped or observed (G. L. Holroyd

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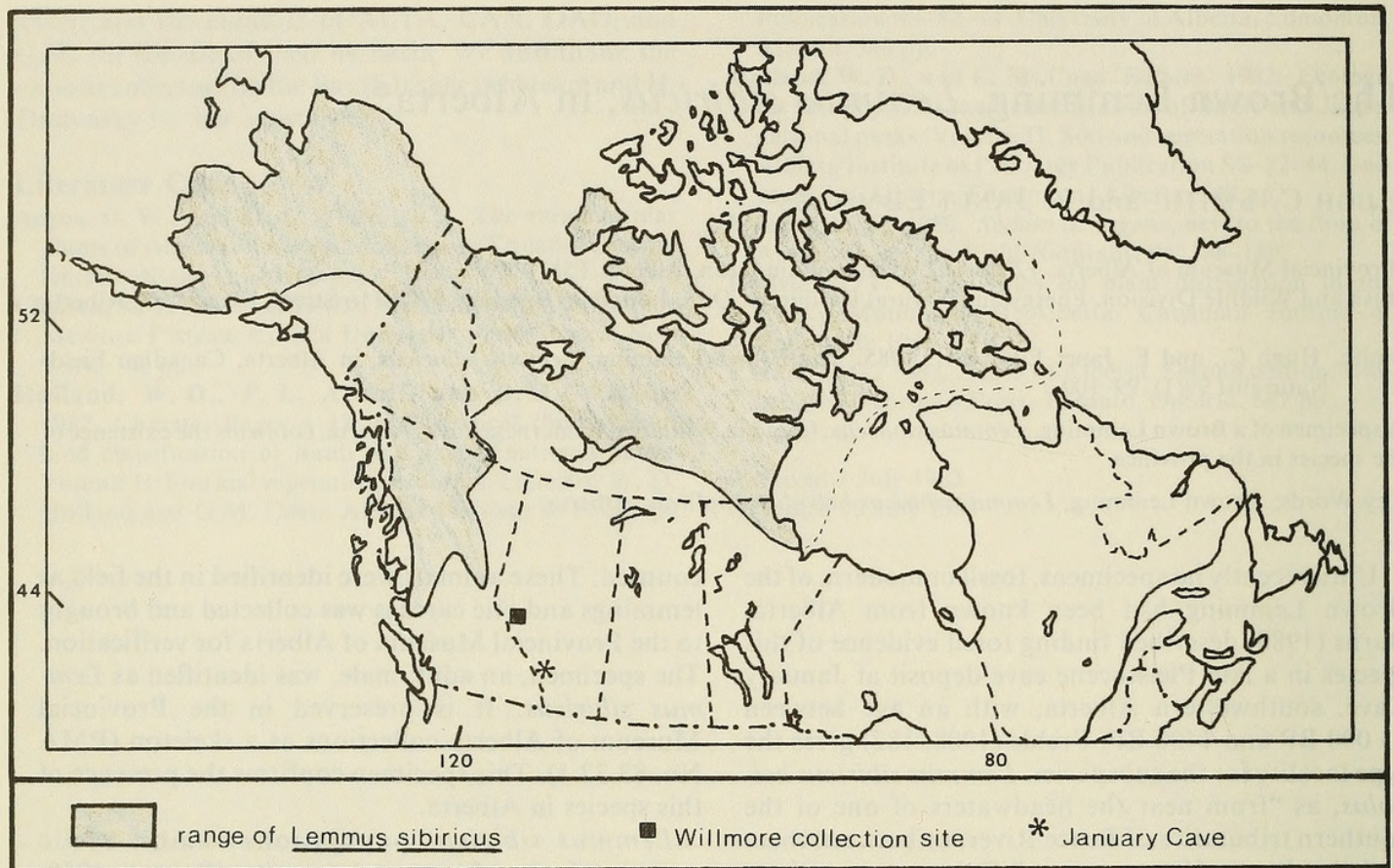


FIGURE 1. Range of *Lemmus sibiricus* modified from Hall (1981) and Burns (1980).

and K. J. Van Tighem. 1983. Ecological (Biophysical) Land Classification of Banff and Jasper National Parks Volume III: The Wildlife Inventory. Part A. Canadian Wildlife Service, Edmonton. Report for Parks Canada. 444 pp.). Until further survey work on small mammals is conducted in the area the systematic and distributional status of this species in Alberta will remain uncertain.

An addendum with respect to the type specimen of *Lemmus sibiricus helvolus* may be of interest. In the original description Richardson (1828) did not indicate where the specimen was housed and subsequent authors have not indicated the whereabouts of this specimen. One of us (HCS) contacted the British Museum (Natural History) to ask if the specimen was housed in their collection. Mr. P. D. Jenkins replied that the type specimen is housed in the British Museum as a study skin and skull with registration number 42.10.7.11.

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