



## Alpine Song Birds: The Secrets to Life on High

Contributed by Kathy Martin

### Background

In mountain habitats, temperatures approach freezing almost nightly, and snow or hail can be present on any summer day. Astonishingly, small songbirds can survive and maintain their eggs at almost 40°C under such conditions. Although little is known about how well songbirds live at high elevation, over 90 bird species and many mammals, amphibians, and reptiles breed successfully in the often inhospitable mountain habitats.



Photo: ??

### The Research

Kathy Martin (UBC) conducts Discovery Grant-sponsored research aimed at understanding the ecological secrets and conservation status of animal life on high. Some alpine populations differ genetically and may thus represent new sub-species or new species. Research on songbirds, such as the horned lark, in western Canada has revealed some secrets to alpine living. High elevation songbirds are larger and have up to 20% higher annual survival than the same species living in lower elevation habitats. Their offspring also have high survival and a strong tendency to return to their birth sites. Thus, most birds living in alpine habitats are not inferior individuals but have developed a slow lifestyle and live and breed successfully. With a slow lifestyle, alpine birds may be reasonably buffered against extreme weather events that cause breeding failure every few years. Nevertheless, climate change impacts that reduce the survival of adults could be catastrophic for alpine birds.

### Why It Concerns Canada

For many songbirds, such as horned larks, with rapid population declines at low elevation across North America, mountains may represent critical refuge habitats. Since alpine habitats are experiencing globally significant warming, it is critical to determine the vulnerability of alpine birds to climate change..

### To learn more

Centre for Alpine Studies website: <http://www.forestry.ubc.ca/alpine>

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