



WILL ALBERTA'S BLACK WOLVES BENEFIT FROM CLIMATE CHANGE?

By Dr. Dick Dekker, Ph.D.

A team of 15 geneticists and biologists has recently written that the black fur of wolves is "a gift from the dogs" and that it gives them a camouflage advantage over their grey cousins as the tree line advances onto the tundra zone due to climate change.

Based on the analysis of mitochondrial DNA, the black fur in western wolves is said to have been caused by a mutation that was lost to the species in ancient times but was subsequently re-acquired after wolves hybridized with domestic dogs. And this was most likely to have happened, the scientists speculated, about 15,000 years ago after some wolves crossed over from Asia into Alaska via the land bridge that developed between the two continents during the Pleistocene ice age.

Be that as it may, in my opinion, the scientists exaggerated the significance of their finding by claiming that black wolves have an evolutionary edge over their grey cousins that makes them better adapted to climate change and the expected northward expansion of the boreal forest. Black fur, the scientists thought, is an asset to a forest-dwelling predator.

This premise is fanciful because the effects of global warming may vary in different landscapes. As predicted by climatologists, rising annual temperatures could lead to the demise of Alberta's forests and create more open and snow-free ground. There, the so-called camouflage advantage for a black animal would be lost and in fact become a disadvantage. Furthermore, in my 40 years of field observations in Jasper National Park, black wolves are at all times more visible than grey ones, even among the trees.

The taxonomic origin of wolves is complicated and was vigorously debated at the Second North American Symposium on Wolves held at the University of Alberta in August of 1992. Based on the fossil record, Professor



Black fur in wolves is unknown in Eurasia and very rare in eastern North America, but common from Alaska down to Yellowstone. At about 70 percent of the local population, the black variant is most numerous in Jasper National Park, which makes the common name Gray Wolf actually a misnomer. This impressive pair was photographed on the eastern boundary of Jasper. With advancing age, black wolves may turn silvery grey or even white. PHOTO: B. GENEUREUX

Ronald Nowak argued that the forbearer of all wolves is the Red Wolf of the American southeast. Long ago, the ancestors of these New World wolves crossed over into Asia and Europe. There, they grew to the large size of the present-day Gray Wolf and much later returned to North America, where some acquired a black coat. In western wolves, from Alaska down to Yellowstone, the black percentage varies from 30 to 50 percent. It is highest in Jasper National Park. Of the circa 800 wolves I have seen there, just over 70% were black.

Melanism is caused by excessive production of black pigment in fur or skin, but it is not confined to the Gray Wolf. It also occurs in the Red Fox, where it can have nothing to do with hybridization with dogs because foxes and dogs have different chromosome numbers, which prevents interbreeding. Melanism is also evident in the Grey

Squirrel. After this eastern tree-hugger was introduced near Vancouver, spotting a black squirrel has become common for visitors to Stanley Park.

Black fur has even been reported in the Richardson's Ground Squirrel or gopher. Colonies of black gophers have been seen in fields near Tofield and west of Edmonton, as well as in the Yukon and Jasper National Park.

The discovery that western wolves acquired their black gene through contact with domesticated dogs is interesting, but why present it in the context of climate change? Or has climate change become the buzzword in wildlife research?

Dick Dekker, a naturalist born in Holland, came to Canada in 1959 to find wilderness. He has written ten books as well as numerous articles and research papers. Since 1960 he has been an outspoken defender of wolves and habitat conservation. 🐾