

in size of body is the rule on the Arctic Slope. The mammal begins winter with a thick layer of fat that insulates the animal and is a source of energy and heat in the long dark winter.

In the brief summer the winter coat is replaced by new hair short and sparse enough to permit the animals to benefit from the sunlight. In summer these mammals seem to be active for more of each 24-hour period than are mammals in temperate regions.

One piece of new information resulting from our study is that some of the smaller mammals, for example, the brown lemming (Lemmus trimucronatus), have six different pelages in one year (July 1 to June 30). There are two molts. The greater number of pelages than of molts is caused by a new crop of hair growing into an existing crop of hair.

In conclusion, it is profitable to compare briefly the fauna of the northern Arctic Slope of Alaska with the fauna of southern Arctic alpine areas. In general features the tundra on the Arctic Slope resembles that on the high Arctic alpine areas in temperate regions, but wide range and extremes of temperature within the daily cycle in Arctic alpine areas versus uniformity in temperature on the Arctic Slope is a fundamental difference. Furthermore, permafrost in the soil on the Arctic Slope keeps water on the surface of the ground and permits extension of sedges and grasses onto many slopes that, in alpine areas, are dry and generally well drained. Permafrost does not, however, exclude mammals from living on the tundra of the Arctic Slope. The light fall of snow there is drifted by winds of high velocity which expose part of the tundra. Mammals are able to move about in winter on the Arctic Slope while in the Arctic alpine areas, say, in the United States, the deep snow excludes the larger and many of the smaller mammals.