

under the species account (MVZ, Univ. Calif). The individuals with brown hair in winter pelage are two or three individuals, as I recall, of the nine specimens examined from that institution.

The answer to your question on the genetic basis for the occasional appearance of dark hair in winter pelage in *Licrostonyx* can only be answered by an empirical formula. As I recall, my statement was prefaced with the word "perhaps". The percentage of individuals with brown pelage (winter texture) in winter animals appears to be greater in some parts of Alaska which today support a milder climate than elsewhere. Material from Point Barrow tends toward a normal white winter pelage although even here animals have been reported or observed in winter with black pelage, brown pelage and variations between the extremes (type of hair responsible for these non-white pelages is indeterminate).

It is my belief that the last interglacial period was of long duration when temperatures and precipitation were high and most of the country was without a covering of snow. During this period the hereditary pelage of *Licrostonyx* was brown. With the advent of the last glacial period, when temperatures decreased and snow accumulated to maximum depth and coverage, natural selection produced a white winter pelage. With further general decrease of temperature and especially precipitation (excluding the present trend of a warming climate in northern Alaska which is merely a minor fluctuation in the greater cyclic phase of decreasing temperatures and decreasing snow accumulations that I speak of above) one can expect natural selection to again come into operation in favor of a brown pelage. Whether the incomplete brown pelage of winter animals is the result of a white pelage which has not become too completely fixed as to eliminate completely the brown pelage of the last Pleistocene interglacial, or that the occurrence of brown hair of winter pelage may actually be a product of natural selection tending toward a brown pelage of today, is a controversial question. This interpretation is in my manuscript for the mammals of northern Alaska, but was omitted, except as a simple