

THE EVOLUTIONARY HISTORY AND THE POSSIBLE SERIAL TRANSMISSION OF THE PRION PROTEIN (PRNP) GENE

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ABSTRACT

This project is designed to gain insight into several aspects of the prion protein gene. This is the gene responsible for several forms of spongiform encephalopathies including mad cow disease and chronic wasting disease in deer and elk. The two primary areas of interest are that of the evolutionary history of the gene and the possibility of serial transmission of the disease between species other than deer and elk. We are focusing on sequencing the PRNP gene from carnivores at this time to identify a connection between deer and elk that carry CWD and the predators and scavengers that feed on them. DNA has been successfully extracted and is being sequenced for the following animals; coyote, badger, raccoon, bobcat, lynx, skunk and pronghorn antelope. This data is then compared to a national data bank in the hopes of identifying similarities with previously sequenced specimens. The results of the sequences for these animals will be presented along with the evolutionary significance of this data will be discussed.