Horse whisperers, lion tamers not needed: Scientists find genetic regions that soothe savage beasts

June 8 2009

In what could be a breakthrough in animal breeding, a team of scientists from Germany, Russia and Sweden have discovered a set of genetic regions responsible for animal tameness. This discovery, published in the June 2009 issue of the journal *GENETICS*, should help animal breeders, farmers, zoologists, and anyone else who handles and raises animals to more fully understand what makes some animals interact with humans better than do others. It may also lead to more precise breeding strategies designed to pass specific genes from one generation to the next as a way to produce tame animals.

"I hope our study will ultimately lead to a detailed understanding of the genetics and biology of tameness," said Frank Albert, a scientist from the Max Planck Institute for Evolutionary Anthropology in Germany and the first author of the research report. "Maybe we'll then be able to domesticate a few of those species where humans have historically not been successful like the wild African Buffalo."

The roots of this study date back to 1972 when researchers in Novosibirsk, USSR (now Russia), caught a large group of rats in the wilderness around the city. After bringing them into the laboratory, the researchers divided them into two groups. The first group included the most "friendly" rats - those that were not aggressive toward people. The second group included only the most aggressive rats - those that screamed, attacked and bit the researchers. Since then, these rats have

been bred with one another, and now, the two groups of rats act very differently toward people. The tame rats tolerate being touched and picked up, and never attack. The aggressive rats scream, run away, or attack and bite. For this research study, the scientists mated the tame with the aggressive rats and identified regions in the rat genome that cause a rat to be tamer or more aggressive.

"For thousands of years, humans have domesticated animals," said Mark Johnston, Editor-in-Chief of the journal *GENETICS*, "and all during this time, much folklore and mythology has surrounded the process. But of course genetics plays a large role in the process, and this research provides a solid scientific explanation of this phenomenon, and offers clues about how genomes can be manipulated to breed tame animals of species once believed to be untamable."

Source: Federation of American Societies for Experimental Biology (news : web)