

Scientists investigate the cat genome to see how wildcats turned into lazy furballs

Your house cat isn't as domestic as you think. Unlike dogs, which have been distinct from their wolf ancestors for over 10,000 years, cats only started living with humans at all around 9,000 years ago. In other words, they started the domestication process after Fido had already finished.

But there are obviously differences between a cuddly pet kitten and a fierce wild bobcat, so scientists have compared a few cat genomes to pinpoint what distinguishes them genetically. Their findings are reported in The Proceedings of the National Academy of Sciences.

So what makes your fluffy, taciturn house pet different from a vicious wild beast? It turns out that we've managed to influence some changes at the DNA level.

"Cats, unlike dogs, are really only semi-domesticated," senior author Wes Warren, associate professor of genetics at The Genome Institute at Washington University, said in a statement. "They only recently split off from wild cats, and some even still breed with their wild relatives. So we were surprised to find DNA evidence of their domestication."

The scientists compared the genomes of several domesticated cat breeds to wildcats, looking for places where house cats had changed rapidly. They found three genetic changes that might be related to change in temperament -- which would indicate that they were influenced by human need. After all, we know that domestic dogs were selected from wolves who were less afraid of humans, and friendlier. Over time, this led to the gentler (and less intelligent) creatures that we keep in our homes.

In the case of kitties, scientists found that house cats had more mutations in genes known to decrease aggression, help with memory formation, and allow learning based on positive and negative reinforcement. They also had genes that help in the digestion of plants -- probably because domestic cats had more food available if they could stomach all human scraps -- while wildcats are totally carnivorous.

The main drive of the study was actually to improve human medicine, WIRED reports. Because there are cat-ified versions of diseases like diabetes and HIV, the researchers hope that studying the feline genome will help scientists improve human treatments. But in the meantime, now we know the genes that help make your favorite cat a solitary, sleek (but usually harmless) mooch.