

Millions Love This Semi-Domesticated Pet – Do You Have One?

These popular pets are far less dependent on us than we like to think. They seem to have a love-hate bond with their humans, morphing from cuddly house companions to captive wildcats.

Analysis by Dr. Karen Shaw Becker

STORY AT-A-GLANCE

- If you have feline family members, you may have noticed they occasionally seem to lose their domesticity, morphing from house pets to captive wildcats and back again
- Interestingly, even experts disagree on the topic of domesticated cats, specifically whether our feline companions are truly tame, or only semi-tame
- Despite thousands of years living with and around humans, cats continue to walk on the wild side, unlike dogs and other domesticated animals

There's a long-standing controversy among various scientists and biologists about whether domesticated cats are actually domestic. I get the confusion, and you probably do, too, if you share your life with a kitty. There's a certain wild vibe about our feline companions — even tiny kittens — no matter how long they've shared our homes or snuggled on our laps.

Cats are the most popular pet worldwide, and have lived with humans for 10,000 years or so. But despite their long and close association with us, cats turn **feral** without human contact, and it's often difficult to "tame" a feral kitten once it reaches a certain age. Another sign of Garfield's wild side: it's unlikely he'll starve to death if he escapes into the great outdoors, since his instinct to hunt never diminishes.

Cats Are Only 'Semi-Domesticated'

An analysis of the genome of an Abyssinian cat, a domestic female named Cinnamon whose lineage was traced back several generations, revealed certain genes responsible for domestication. However, the researchers concluded that cats are only "semi-domesticated," especially when compared to dogs. From the study abstract:

"Cats are considered only a semi-domesticated species, because many populations are not isolated from wildcats and humans do not control their food supply or breeding.

"We therefore predicted a relatively modest effect of domestication on the cat genome based on recent divergence from and ongoing admixture with wildcats, a relatively short human cohabitation time compared with dogs, and the lack of clear morphological and behavioral differences from wildcats, with docility, gracility, and pigmentation being the exceptions."¹

Not everyone is buying the semi-domesticated label. "There's no difference between a domesticated cat and a domesticated anything else," according to Greger Larson, an evolutionary biologist at the University of Oxford. "Good luck trying to get a goat or a sheep to spend the night in your house."²

Do Cats Tame Themselves?

According to Smithsonian.com, "In its simplest form, to domesticate an animal means to tame it, through breeding and training, to need and accept the care of humans."³

Dogs are believed to have been domesticated anywhere from 18,000 to 30,000 years ago, when they separated from their wolf ancestors and began spending their days and nights around humans.

Cats, on the other hand, seem to have begun their journey to domestication around 4,000 years ago according to some experts, or 8,000 to 9,000 years ago according to others.

Wes Warren, an associate professor of genetics at the Genome Institute at Washington University in St. Louis and lead author of the Cinnamon genome study, believes that around 5,000 years ago a commensal relationship developed between cats and humans. Humans initially desired cats as pets because they kept rodents away from food sources.

However, Warren says what isn't known is whether the relatively minor taming of cats has been caused by humans, or whether cats have essentially tamed themselves.

Genetic Differences Between Cats and Tigers

Cinnamon's genome was compared to the genomes of a tiger, a cow, a dog and a human. Earlier genetic studies have shown that *Felis catus* (the domestic cat) and *Felis silvestris* (a small wildcat native to Africa, Europe, and Asia) are not all that different.

But Warren discovered some differences between Cinnamon and the tiger, especially in terms of behavior. He found genes in Cinnamon that would make her more likely to approach humans and interact with them, and also to seek rewards. These same genetic sequences are also starting to be uncovered in rabbits, horses, and other domesticated animals.

According to Smithsonian.com, "This is not evolution, but the effects of human interventions."

Over the years, humans have bred dogs much more selectively than cats, with the goal of producing specific behaviors and temperaments, among other characteristics. Cats have been bred primarily for looks, for example, fur colors or patterns. Interestingly, a domestic cat's stripes are still no different than a wildcat's stripes. And Warren adds:

"Cats have retained their hunting skills and they're less dependent on humans for their source of food. With most of the modern breeds of dog, if you were to release them into the wild, most would not survive."

So Are Our Feline Companions Domesticated ... or Not?

The answer to this question seems to depend on one's definition of "domesticated." Some experts believe it's a simple matter of being tame enough to live with humans from one generation to the next, and cats certainly qualify.

But others believe there's more to it — that domestication involves "complex genetic and behavioral changes that transform a creature inside out."

Warren believes cats cannot be considered domesticated under the second definition. He points out that there are affectionate cats, but there are also plenty of wary and aggressive cats, and he believes the spectrum of feline behavior is wider than we see in dogs. Warren also points to the notorious feline independent streak:

"Cats only come to you for affection when they feel like it," he says. "They pretty much take care of themselves."

The question is, if cats really don't need us, have they actually been domesticated by us?

I don't know about you, but this isn't a question I'm desperate to answer. I cherish the occasional flashes of wildness I see in my kitty patients and my own cats at home.

What's not to love about sharing your life with a beautiful animal who is at times a cuddly companion, and other times, a creature of the wild?

Sources and References

¹ [Proceedings of the National Academy of Sciences, Vol. 111, No. 48, November 10, 2014](#)

² [Slate, July 5, 2015](#)

³ [Smithsonian.com, April 30, 2015](#)
