The Origins of Cat Breeds

The nearly 10,000 year old relationship between humans and cats created a modern-day feline that's remarkably different than its ancestors. Here's why that matters.

BY KAREN ASP

As aloof as they can be, cats should be commended for turning America into a feline-loving nation. As of 2022, 29 percent of American households had at least one cat, an increase of 4 percent since 2016, according to the 2022 *AVMA Pet Ownership and Demographics Sourcebook*. Of course, this doesn't include every cat in the country, as strays and barn cats aren't counted.

How cats have come to occupy a revered space with humans is an interesting (albeit somewhat obvious) story, given that many cats aren't known to be social butterflies. The real surprise, however, is that although cats have been around for thousands of years, their appearance hasn't changed very much throughout the centuries.

The fact that the selective breeding of cats is a relatively new phenomenon is in part to blame. Still, even though one cat might have a rounder or leaner face than another, folded versus straight ears, or a coat that might be shorter or longer, the physical distinctions between cats are minor, especially compared to the canine species. Dogs, after all, can range from a mere 1.5 pounds, the weight of the Chihuahua who holds the record as the world's smallest dog, to an Old English Mastiff who currently reigns as the world's heaviest and tallest dog at 343 pounds and more than eight feet tall.

Curious about how cats came to be who they are today? Curiosity may have killed the cat, but that shouldn't stop you. Here, experts walk you through the fascinating history of cats.

How Humans and Cats Formed a Relationship

To find the earliest proof of a human-cat relationship, you have to travel back about 9,500 years to 7500 BCE—to Cyprus, an island in the Mediterranean nestled in a region called the Fertile Crescent, or the Near East. It was here where archaeologists found a complete skeleton of a cat buried with a human. Prior to this, only pieces of cat bones had been found in archaeological sites, the markings on them indicating that the cats had been killed for their meat or fur, says Eva-Maria Geigl, Ph.D., head of research at CNRS and codirector of the epigenomics and paleogenomics laboratory at the Université Paris Cité in Paris.

Researchers have suggested that this find indicates the beginning of cats' domestication, but at this point, that remains a hypothesis. "Although nobody can say whether or not this cat was domesticated, it does show the beginning of humans and cats coming closer," says Geigl, who documented her team's findings of ancient cat DNA in a study she coauthored for the journal *Paleogenomics*.

Because there were no indigenous cats on Cyprus, and no cat would have swum to the island, this cat would have had to have been carried over by humans who were traveling by raft or ship. These people may have come from areas north of the Fertile Crescent, most likely northern Syria. Finds from other ancient mitochondrial data and archaeological evidence suggest that central Anatolia was another location where cats and humans began to form a relationship, Geigl says.

So what was it that drew humans and cats closer? The simple fact that Neolithic farmers were transitioning from

Royals in ancient Egypt dressed their cats in gold and let them eat from their plates.

The modern cat is descended from the African wildcat, above.

a hunter-gatherer to producer lifestyle. As such, they were beginning to accumulate grains and cereals, storing them in granaries. And that naturally led to a rodent problem.

Where you have rats, you almost always have cats, and the cats of this region—a wildcat from North Africa and Southwest Asia that belonged to the subspecies *Felis silvestris lybica*—were no dummies. As soon as they caught wind of the rats, they began moving into the villages. "It was an unusual move, given that cats are solitary in nature, tend to dislike other cats or humans, and are territorial," Geigl says. "Yet for those wildcats able to overcome their fear of humans and even tolerate other cats being around, living conditions in the villages would have been better than in the wild."

Not surprisingly, the relationship benefited both the cats and the humans. The cats got a steady, rodent-based food supply and even began hunting scorpions and snakes, which were also becoming a problem for the humans. Meanwhile, the farmers received free pest and possibly disease control—although there isn't yet proof of the latter, it makes sense, given that limiting the number of rats would have reduced the number of diseases transmitted to humans, Geigl says.

It's interesting to note, though, how different the domestication of cats was to the domestication of dogs. "Evidence shows that dogs either chose to be domesticated by self-selecting for it—for instance, braver dogs would approach a campfire for food, thrive, reproduce, and have braver offspring—or humans got involved and began breeding dogs for friendliness," says Stephen Quandt, CFTBS, a cat behavior specialist and the founder of Stephen Quandt Feline Behavior Associates. Cats, in the meantime, weren't selected for bravery or friendliness. "Cats came to tolerate us, and people started to enjoy their company," Quandt says.

Now that this symbiotic relationship had been formed, cats from the Fertile Crescent began following people. As people moved, so, too, did the cats, eventually becoming regular passengers on ships. They served the same purpose on ships as they did on land, feeding off of rodents that would have otherwise consumed and spoiled human food. Once in port, they left the ships and mated with local cats. Findings of mitochondrial DNA from archaeological sites indicate that these cats spread into Europe and the Mediterranean, Geigl says.

Egyptians were also domesticating local cats, proof of which came from another critical archaeological find. Six cat skeletons, four of which were kittens, were excavated from a pit in Egypt that dates to around 3700 BCE. Study authors suggested that these cats had been held in captivity, which is telling. "This suggests that Egypt was another area where cats' behavior changed enough for them to coexist with humans," Geigl says.

The story with the Egyptian cats unfolded in much the same way as it did with the cats from the Fertile Crescent. When Egyptian trading ships began sailing around the world, they, too, carried cats, and those cats spread their lineage. Mitochondrial DNA from Egyptian cats has been found in Southwest Asia, North Africa and Europe, Geigl says.

So what did these ancient cats look like? "Much like today's stray cats," Geigl says. They would have been similar in size and appearance, and most of them had stripes, just as the wildcats did. Depending on the age of the animal, the stripes would have been more or less pronounced.

The Emergence of the Modern Cat

Cats didn't arrive in the New World until after Christopher Columbus, their ticket to these new lands via ships. Today, "most of the cats of North America are representative of cats from western Europe," says Leslie Lyons, PhD, Gilbreath-McLorn endowed professor of comparative medicine and a feline geneticist at the College of Veterinary Medicine at the University of Missouri. "There were no cats indigenous to North and South America that could have been domesticated."

The cats who arrived in North America were genetically different from other cats. In fact, Lyons says, there are four different feline landraces—essentially animal species developed over time by adapting to their natural and cultural environment—all of which are genetically different: Western European, Southeast Asian, Mediterranean, and Arabian. These four feline landraces would have been established in the Old World, before cats began migrating or before breeding began, she adds.

There was, after all, no point in breeding cats. Although dogs were bred for specific jobs, such as pulling sleds or hunting small

animals, Quandt points out that cats were excelling at the only job humans needed them to do: hunting.

Yet by the late 1800s, people were getting keen to the idea that cats were more than just pest control, and in 1871, the first cat show was held in London. It was a new concept, and perhaps a slightly unusual one, as there weren't any specified breeds but rather a hodgepodge of different-looking cats. "You had random-bred cats that had fairly distinctive genetic traits to them," Lyons says.

There was, for instance, a long-haired cat, a Siamese cat with points, an all-blue cat like the Russian Blue, a tailless cat like the Manx, and an Abyssinian, all of whom went on to become breeds. Yet this sparked what became known as the cat fancy, and people began keeping the different breeds separate, so much that in 1906, the Cat Fanciers' Association (CFA) was launched in the United States.

Cat breeding slowed in Europe and Asia during the two World Wars, however, and many cat breeds were lost during the wars, Lyons says. Yet after World War II, breeding took off again with novelty selection. "People spotted something novel about a cat and began to breed for those recessive traits," Lyons says. The Devon Rex and Cornish Rex, for instance, were developed in the postwar era.

Today, the CFA recognizes 45 pedigreed breeds, as well as non-pedigreed companion cats. From a genetic point of view, however, there are probably only 25 to 30 genetically distinctive breeds, Lyons says. That's because some of the cat fancies are what Lyons call splitters. Take, for instance, the Manx and the Cymric, a long-haired Manx. "Although there's only one genetic mutation difference between these two cats, they're recognized as two different breeds," Lyons says.

A Breeding Conundrum

When it comes to breeding cats, the adage "too much of a good thing" rings true. That's because selecting for novel traits, essentially genetic mutations, comes with a downside. "Breeders may not realize that the mutation they're selecting for may also [cause] detrimental health problems," Lyons says. These negative genetic traits can piggyback on the positive traits,

> ***Unlike dog breeds, cat breeds have traditionally been selected for appearance, not behavior.***

which can create issues for cats.

Take, for instance, the Manx, which is bred to have no tail. That particular mutation can set the Manx up to have problems with the nerves that run from the spinal cord to the legs, bowel, or bladder. As a result, Manx cats can be incontinent and constipated, limp, and have pain, Lyons says. Meanwhile, Persians, who are bred for their squashed faces and fluffy coats, often develop polycystic kidney disease, while Maine Coons are prone to a number of diseases and disorders, including heart disease, Quandt says.

Now consider the Scottish Fold. This breed may be adored for the look of its folded ears, but those ears come with a downside. "That fold is caused by an inherited condition called osteochondrodysplasia that creates defects in bones and cartilage," Quandt explains.

Currently, there's concern about Munchkins, who are bred to have extremely short legs. Yet like dogs with short legs, Munchkins have problems with their back, often rupturing discs as a result. Because of this, many cat associations around the world now refuse to recognize the breed. "Right now, we're watching to see what happens with the Munchkin," Lyons says. "Perhaps these problems might not exist if Munchkins were bred to be as tall as possible, but of course, we don't know that."

Fortunately, though, because cats haven't been selectively bred for as long as dogs have, some of these health issues can still be turned around. That's why Lyons and her colleagues give lectures for breeders and speak at conferences to warn breeders about the potential of problematic genetic mutations.

Does Breed Determine Behavior?

All of this might make you wonder: How much of a role does a cat's breed play in its behavior? That's a hot topic lately, and the jury's still out, largely because, unlike dog breeds, cat breeds have been selected for appearance, not behavior, Lyons says.

There are, of course, behaviors such as being talkative or having higher or lower energy that tend to go along with certain breeds. For instance, ragdolls are known to be relaxed, which might suggest that bigger cats are more chill, but it also poses bigger questions. "Does that chill factor accidentally happen when selecting for their size or color?" Lyons asks. "Or is there some type of gene mutation in the genes that breeders want that makes bigger cats more relaxed?"

While researchers search for answers to that question, cat behaviorists have an idea. "Most cat behavior is the result of some combination of innate personality and early life experiences," Quandt says. The American Veterinary Medical Association has actually identified five main personality traits in cats. They are neuroticism (traits include fear of people, shyness, suspicion, anxiety and insecurity); extraversion; dominance; impulsiveness; and agreeableness.

In the meantime, cat breeding will continue to evolve. Lyons expects the future to bring new colors, different mutations that breeders will try to select for, and cats being bred even bigger, something already happening with Maine Coons.

Most important, though, she sees a future in which cats might finally be free of genetic health concerns. "With a little work, you could probably eradicate most of the known diseases in cats," she says. That could include polycystic kidney disease, spinal muscular atrophy, and glycogen storage diseases.

That's good news for the millions of cats in the world, and for the people who love them, whether it's for mousing or for cuddling. 🐾

Since the 19th century, cat breeders have competed in annual feline-centric competitions like the 1937 London Cat Show, where pedigree was an important factor in determining the winners.