

Dogs Developed from Wolves - But How?

Anyone who has ever looked at a dog can see the connection between dogs and wolves. It's obvious that dogs evolved from wolves. But how? Let's begin with what science knows. All dogs in the world arose from a population of wolves about 10,000 years ago. Today, a wide variety of dog breeds has come to distinguish itself from the original wolf breed – even as it retains an unmistakable connection to the original population. And that fact poses a fascinating scientific problem: how did this original wolf population give rise to the diversity of dogs that we see today?

Scientists have several ideas. Some scientists say humans made it happen by capturing wolves, taming them, and gradually breeding them toward “dogness.” According to biologists such as James Serpell, that's how the dog was first created. Serpell argues, “We have evidence that hunter-people in different parts of the world have captured and tamed young wild animals and then brought them home, keeping them as pets. The same might have happened with baby wolves. Perhaps our ancient ancestors would find a wolf pup and bring it home to raise as a pet. That could be a first step on the journey to dog. The next step would be to allow only the tamest pet wolves breed. If you kept that up generation after generation, in theory you would create an animal fundamentally different from wolves – the dog. From there, humans went on to develop various breeds of dogs.

According to Serpell, that's essentially how the dog was first created – 10,000 or more years ago. This theory argues that dogs are easily created from wolves, because wolves have bodies and social organizations fitting

well into human society. Other scientists think the idea you can get a dog by adopting a wolf is wrong.

But how might the biological journey from wolves to dogs – sled dogs, poodles, pit bulls, retrievers, collies, and all the other diverse forms dogs take - have begun?

The idea that Stone Age people could train and then breed dogs from wolves is unlikely, as far as scientist Ray Coppinger is concerned. But what is an alternative theory? He worked to develop such a theory, and so he started thinking about the problem from the wolves' point of view. Coppinger concluded that wolves *chose* domestication, and that they did so because of the easy food available in Stone Age dumps. In a dump, an animal has a better chance of finding food and surviving.

“Imagine 10,000 years ago, when people first get the idea of living in a village. They settle down, they build permanent houses, and around those houses, all the waste products of their economies build up – especially waste food. Now there's a whole set of animals that move in on that waste: house mice, cockroaches, pigeons – all kinds of animals living off the human waste. One of them might have been the wolf. If wolves move into that kind of a setting, it's great for the animals. They don't have to chase and kill prey. It's less work! They just wait; people dump it in front of them.

Not every animal can take advantage of this resource. Most wild animals run away when humans approach. The few that don't run away have a real advantage. They're going to get most of the food, and that means their

offspring are more likely to survive. And so each new generation becomes increasingly tame.

The ones that run away the first time anybody shows up – those are the ones that are going to be selected against; they're going to go out, have to make an honest living out in the wild. They're not going to be able to get enough out of that dump. They will remain wolves. The dump lives – *they* will gradually change into dogs. So here's natural selection in action. Any one wolf that's a little tamer than the other, who can stay there longer and get more food – he's the one that's going to develop toward “dogginess.” It is, according to Coppinger, the best way to explain many of the physical differences between dogs and wolves.

Look at a wolf's mouth: it's big and it's got large, dagger-like teeth, and you can see him out there killing things. The dog has little teeth, by comparison. The wolf has a big brain; the dog's got a little brain compared to the wolf. Well, who in the world has little brains? Animals that don't need brains. And the dog - a scavenger - doesn't need a brain like the wolf brain. It doesn't take a lot of brain power to figure out where a rotten tomato is. You basically have to be there when somebody throws the tomato away. That's how dogs developed from wolves, and became the first domesticated terrestrial (living on the land) mammals.

Which theory is correct? Did human cave people adopt some wolves, breeding generations of wolves into tamed dogs? Or did wolves develop naturally into dogs by living in and adapting to human garbage dumps? This is an open question, a question which scientists will work to answer in the

coming years. Which theory of dog evolution do *you* support?