

# Genetic study confirms: First dogs came from East Asia

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Researchers at Sweden's KTH Royal Institute of Technology say they have found further proof that the wolf ancestors of today's domesticated dogs can be traced to southern East Asia -- findings that run counter to theories placing the cradle of the canine line in the Middle East.

Dr Peter Savolainen, KTH researcher in [evolutionary genetics](#), says a new study released Nov. 23 confirms that an Asian region south of the Yangtze River was the principal and probably sole region where wolves were domesticated by humans.

Data on genetics, morphology and behaviour show clearly that dogs are descended from wolves, but there's never been scientific consensus on where in the world the domestication process began. "Our analysis of Y-chromosomal DNA now confirms that wolves were first domesticated in Asia south of Yangtze River -- we call it the ASY region -- in [southern China](#) or [Southeast Asia](#)", Savolainen says.

The Y data supports previous evidence from mitochondrial DNA. "Taken together, the two studies provide very strong evidence that dogs originated in the ASY region", Savolainen says.

[Archaeological data](#) and a genetic study recently published in Nature suggest that dogs originate from the Middle East. But Savolainen rejects that view. "Because none of these studies included samples from the ASY region, evidence from ASY has been overlooked," he says.

Peter Savolainen and PhD student Mattias Oskarsson worked with Chinese colleagues to analyse DNA from male dogs around the world. Their study was published in the scientific journal *Heredity*.

Approximately half of the gene pool was universally shared everywhere in the world, while only the ASY region had the entire range of [genetic diversity](#). "This shows that gene pools in all other regions of the world most probably originate from the ASY region", Savolainen says.

"Our results confirm that Asia south of the [Yangtze River](#) was the most important -- and probably the only -- region for wolf domestication, and that a large number of wolves were domesticated", says Savolainen.

In separate research published recently in *Ecology and Evolution*, Savolainen, PhD student Arman Ardalan and Iranian and Turkish scientists conducted a comprehensive study of mitochondrial DNA , with a particular focus on the Middle East. Because mitochondrial DNA is inherited only from the mother in most species, it is especially useful in studying evolutionary relationships.

"Since other studies have indicated that wolves were domesticated in the Middle East, we wanted to be sure nothing had been missed. We find no signs whatsoever that dogs originated there", says Savolainen.

In their studies, the researchers also found minor genetic contributions from crossbreeding between dogs and wolves in other geographic regions, including the Middle East.

"This subsequent dog/wolf hybridisation contributed only modestly to the dog [gene pool](#)", Savolainen explains.

Provided by Swedish Research Council

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