

Ancient hybridization key to domestic dog's origin, wolf conservation efforts

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The ancestry of man's best friend may be more complicated than its furry coat and soulful eyes betray. Understanding the evolutionary history of the domesticated dog may ultimately help protect endangered wolves, according to a study from the University of Tennessee, Knoxville.

Vladimir Dinets, research assistant professor of psychology, has published an overview examining the confusing and often misunderstood system used to classify dogs and related animals such as wolves and jackals. He has proposed a logical and scientifically sound classification scheme to help make sense of all the contradictory claims. The study appears in the *Vavilov Journal of Genetics and Breeding*. Dinets compiled his overview by reviewing existing studies about dog classifications.

"The study shows how complex and surprising can be the [evolutionary history](#) of familiar animals we think we know perfectly well," he said.

The relationships between dogs, wolves and jackals are complicated and controversial, Dinets noted. Scientific studies and popular literature contain countless alternative ideas on their composition and the number of their [species](#), both of which can be difficult to track.

Dinets' overview shows that domestic dogs are descendants of two interbred species: a small extinct wild dog of Asia and the [grey wolf](#). Different breeds have different proportions of wolf blood, and that can

explain a lot about their personalities and behavior.

There are four to five wild species of *Canis* in North America, according to the overview. In addition to the well-known grey wolf and coyote, there is a secondary wild population of the [domestic dog](#) known as the Carolina dog, plus a few populations of hybrid origin with different proportions of wolf and coyote genes. Two of these hybrid populations, the red wolf of the eastern U.S. and the Algonquin wolf—also known as the Eastern or timber wolf—of southeastern Canada, have already evolved into full species. What is still unknown is whether they should be considered two different species or one species with two living subspecies.

"Both red wolf and Algonquin wolf are critically important components of North American ecosystems and must be protected and restored," Dinets said. "The Carolina dog, which is also critically endangered, also deserves protection in its small natural range; it is a descendant of the first dogs brought to North America by humans at the end of the last ice age."

The overview helps debunk claims that the red wolf is not a real species and thus not worthy of protection, he said, noting that there are persistent attempts to kill red wolf reintroduction programs.

Dinets added that the critically endangered Carolina dog currently has no legal protection and animal control services treat Carolina [dogs](#) as strays and kill them. Most zoologists have not heard of it.

"These species must be protected and reintroduced if we want our forests to function normally," he said.

More information: www.bionet.nsc.ru/vogis/download/19-3/006Dinets.pdf

Provided by University of Tennessee at Knoxville

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