

A wolf in jackal's clothing: Re-discovering an African wolf species

Suvi Viranta

Anagaw Atickem

Lars Werdelin

Nils Chr. Stenseth

Video Abstract

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Abstract

At first glance you would be hard-pressed to tell apart a Eurasian golden jackal from what has been thought to be an African golden jackal. Recent studies, however, suggest these geographically separate populations represent two distinct species. And one of them, it turns out, should be classified as a wolf. 19th century naturalists recorded and named many African mammalian species during their expeditions. Species descriptions were based on observations in the wild and on individuals collected and brought back to European natural history museums. These scientists were often over-zealous, naming more species than are currently recognized. But in the case of the African wolf, these early naturalists had it right. During the early part of the last century, golden jackals found in Eurasia and Africa were lumped into a single species due to similarities in their outward appearance, despite the fact that the early scientist had recognized the African form as a different, wolf-related species. Multiple studies now confirm these canid cousins represent unique, cryptic species and are only distantly related – separated by almost two million years of evolution. Taking a closer look at both morphology and DNA sequence data, an international team of researchers set out to verify this claim and provide a detailed description of the new African wolf species. The team took detailed skull and dental measurements and extracted DNA from numerous African and Eurasian canids. This allowed them to construct an evolutionary tree and assess the physical differences between the various populations. Their findings? Populations found across the northern half of Africa do indeed represent a distinct species and appear to be most closely related to gray wolves. In addition to distribution differences, this re-discovered wolf can be differentiated on the basis of molecular and cranial features. Scientists may have resolved a centuries-old mystery and identified a previously hidden species of wolf, but their work isn't done yet. The erroneous combination of African wolves with golden jackals has obscured the unique evolutionary history of these canids. Splitting a widespread species in two means neither organism is as successful as once thought. Further behavioral and ecological studies are now necessary to design and implement successful conservation strategies. In particular, the conservation status of the African wolf needs to be assessed to ensure its survival in the face of substantial threats such as human persecution and habitat destruction.