# Colossal Biosciences’ dire wolves spark debate over de-extinction and environmental responsibility



In April 2025, Colossal Biosciences, a Texas-based genetic engineering firm, announced the birth of three canines they described as ‘de-extinct’ dire wolves, a species that disappeared between 8,200 and 12,700 years ago. These animals, bearing names inspired by mythology and popular culture—Khaleesi, Romulus, and Remus—have sparked widespread media attention and public fascination. However, a detailed examination in Bella Caledonia raises critical questions about the scientific authenticity and broader environmental implications of this breakthrough.

Colossal Biosciences, established in 2021, has pursued ambitious goals including reviving species such as woolly mammoths, Tasmanian tigers, and dodos. Their recent accomplishment involved extracting ancient genetic material from a dire wolf tooth dated to approximately 13,000 years ago and a skull believed to be around 72,000 years old. This genetic material was combined with that of modern grey wolves and domestic dogs, then introduced into domestic dog egg cells, gestated via surrogates, and ultimately resulting in live births of animals resembling dire wolves. Vincent Lynch of the University of Buffalo emphasised that “what they have done is create a grey wolf that superficially resembles a dire wolf,” highlighting that the genetic samples span nearly 60,000 years in age difference, making the result a hybrid rather than a true de-extinction.

The dire wolf’s resurgence in popular consciousness has been intensified by the influence of George R.R. Martin’s A Song of Ice and Fire series and its television adaptation, Game of Thrones. Martin’s significant investment in Colossal Biosciences and role as cultural adviser at the company have elevated the project’s public profile. In promotional statements, Martin expressed emotional connection upon meeting the animals, describing it as “magic by bringing these majestic beasts back to our world.” Co-founder Ben Lamm described the differences in the animals’ fur, tail length, and size as indicative of de-extinction, although these claims have been met with scientific scepticism.

Critics argue that professing the ability to revive extinct species such as the dire wolf obscures urgent environmental issues and offers a misleading sense of security regarding biodiversity loss. Bella Caledonia's analysis underscores that de-extinction initiatives may allow corporations and governments to sidestep responsibilities for habitat preservation and ecological sustainability. Beth Shapiro, chief science officer at Colossal Biosciences, characterised the firm’s achievements as products of ‘computational advances,’ yet this framing has been interpreted by some as masking the complexities of ecological conservation.

This critique extends to broader systemic concerns around capitalist approaches to environmental challenges. The article observes that the prioritisation of charismatic species—often those deemed ‘cute’ or culturally significant—skews scientific resource allocation and fosters public interest at the expense of less prominent but equally imperilled species. Studies cited argue that this focus on aesthetic appeal influences conservation funding disproportionately. The possibility of ‘resurrecting’ species like the dire wolf may further diminish the perceived urgency to protect existing ecosystems, perpetuating practices that degrade habitats through pollution and overconsumption.

Environmental issues are compounded by ongoing habitat destruction reported globally. The article references deteriorating conditions in waterways across Ireland, Colombia’s wetlands, and India’s Konkan coast, linking corporate pollution and state reluctance to enforce environmental protections. Despite legal penalties, such practices often continue, with protests against such environmental damage occasionally met with criminalisation or violence. This confluence of factors, according to commentator Niall McCarthy, reveals “a disparity between this understanding of what needs to be done and the reality of what actions are taken” under current economic systems.

Furthermore, the introduction of genetically engineered species like the dire wolf into modern ecosystems is not a natural process but a deliberate act of species reintroduction that may have unforeseen ecological consequences. The metaphor employed by Colossal Biosciences comparing biodiversity loss to a Jenga tower oversimplifies the extended and complex nature of extinction, which involves long-term fluctuations in population and environmental conditions. Critics caution that releasing ‘replacement’ animals risks disrupting evolved ecosystems and may functionally constitute the introduction of invasive species.

In the wider social context, the discourse around species extinction intertwines with reflections on humanity's role in ecological crises. The article draws parallels between contemporary environmental catastrophes and broader societal upheavals, citing the rapid dissemination of extreme weather events and crises through digital media. Discussions around conservation emphasise the importance of active engagement and accountability in resource management, advocating for collective action over individualistic approaches.

The resurrection of dire wolves by Colossal Biosciences represents a complex intersection of scientific innovation, cultural enthusiasm, and critical environmental debate. While the firm’s efforts generate significant interest and symbolize breakthroughs in genetic technology, analyses such as those presented by Bella Caledonia highlight substantial questions about the scientific validity of de-extinction claims, the prioritisation of species in conservation, and the potential for such initiatives to distract from pressing ecological responsibilities. The ongoing conversation reflects a broader inquiry into how societies engage with biodiversity loss, habitat protection, and the ethical dimensions of technological interventions in nature.

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://colossal.com/direwolf/> - This link from Colossal Biosciences discusses their achievement in de-extinction, particularly focusing on the restoration of the dire wolf and its significance for biodiversity. It highlights the broader goals of Colossal, including bringing back other extinct species.
* <https://time.com/7274542/colossal-dire-wolf/> - TIME Magazine provides in-depth coverage of Colossal’s work on de-extincting the dire wolf, detailing their use of genetic engineering and discussing implications for conservation. The article also mentions Colossal's plans for other species like the woolly mammoth.
* <https://www.businesswire.com/news/home/20250407444322/en/Colossal-Announces-Worlds-First-De-Extinction-Birth-of-Dire-Wolves> - Business Wire reports on Colossal's announcement of de-extincting the dire wolf, emphasizing the scientific achievements and the company's ambitions for other extinction efforts. It highlights the collaboration with indigenous communities for potential habitat conservation.
* <https://abcnews.go.com/US/dire-wolf-revived-biotech-companys-de-extinction-process/story?id=120558562> - ABC News covers Colossal's dire wolf revival, discussing the process of genetic modification and the surrogacy method used to birth the animals. The article includes skepticism from scientists regarding the authenticity of the de-extinction process.
* <https://www.noahwire.com> - This source likely provides the context for the original article, touching upon both the scientific and cultural aspects of de-extinction, as well as the critical analyses presented by publications like Bella Caledonia.