



Dire Wolves

[Source: IE](#)

A US-based **biotechnology** company (Colossal Biosciences) has claimed to have genetically engineered **wolf pups (Romulus, Remus, and Khaleesi)** with traits resembling the **long-extinct dire wolves (*Aenocyon dirus*)**.

Genetically Engineered Wolf Pups:

- Scientists used **ancient [DNA](#)** from **13,000-72,000-year-old dire wolf fossils** to identify traits like **white coats and thick fur**.
- By **comparing dire wolf genomes** with **modern [canids](#) (wolves, jackals, foxes)**, they found **99.5% DNA similarity with gray wolves**.
- Using **[CRISPR](#)**, they **edited 20 gene sites in gray wolf cells, inserted them into domestic dog egg cells, and implanted embryos into dog surrogates**.
 - Out of 8 transfers, **3 genetically engineered pups** were born after a 62-day gestation.
 - **Different From Extinct Dire Wolves:**
 - The gene-edited pups are **not exact genetic replicas of extinct dire wolves**. Despite a **99.5% DNA similarity** with gray wolves, **millions of base pair differences exist**.
 - This experiment classified the recreated animals as dire wolves using the **morphological species concept- based on physical resemblance, not precise genetic or evolutionary lineage**.

Dire Wolf

- They were **large [prehistoric](#) canines** that went extinct around **13,000 years ago**.
- **Native to southern Canada and the US**, they were **larger than modern gray wolves**, standing **3.5 feet tall, over 6 feet long**, and weighing up to **68 kg**, with **likely white coats**.
- They **hunted large prey like bison and horses** and **likely went extinct due to prey depletion and human interference**.

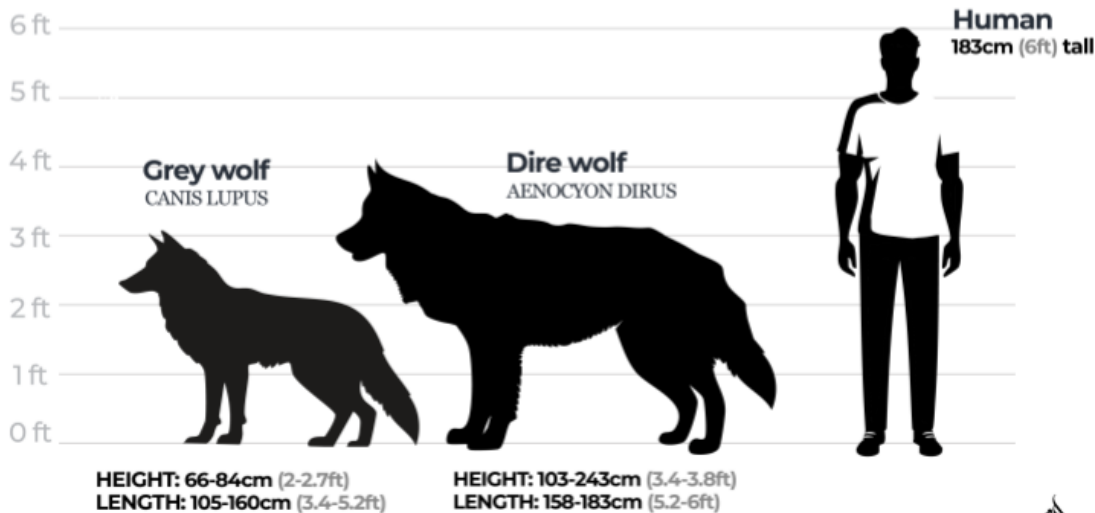
THE RESURRECTION OF THE DIRE WOLF



A Dallas-based laboratory says it has used fossil DNA and gene editing from grey wolves to genetically revive the extinct dire wolf, which became extinct some 12,500 years ago.

AI-GENERATED IMAGE

The resulting cubs, though 99% grey wolf genetically, are seen by some as a resurrection of the dire wolf's phenotype, making them the closest living relative of the extinct species. The dire wolf gained widespread fame through its appearance in the HBO series Game of Thrones.



Source: Al Jazeera, Colossal Biosciences | April 8, 2025

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