



Classifying Tarantula Molts Using DNA Barcoding to Promote Conservation of Endangered Species



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Abstract

The increase in climate change and deforestation worldwide has caused for there to be an uprising in the amount of endangered tarantulas present. By using DNA sequencing we can identify specific tarantula species and aid zoos in breeding them to further conservation efforts. With this project we seek to help preserve endangered tarantulas by analyzing their DNA sequence in a non-invasive way. As a byproduct of this project we will successfully be finding various species that the tarantulas can correctly breed with.

Introduction

Tarantulas are becoming increasingly endangered because of human activity in their environment. The effects of climate change are becoming more drastic and are leading to an increase in declining habitat quality and tarantula populations. In this study we looked at different types of endangered species such as the *Aphonopelma*, *Brachypelma* (Mexican red knee tarantula), *Caribena* (*Avicularia*), *Poecilotheria*, and *Ybarapora*.

Rather than the usual process of extracting limbs and parts of the organism, we utilized tarantula molts to perform DNA barcoding to further conserve these endangered species. By conducting this experiment we will determine which endangered tarantula species can be successfully bred together at the zoos.



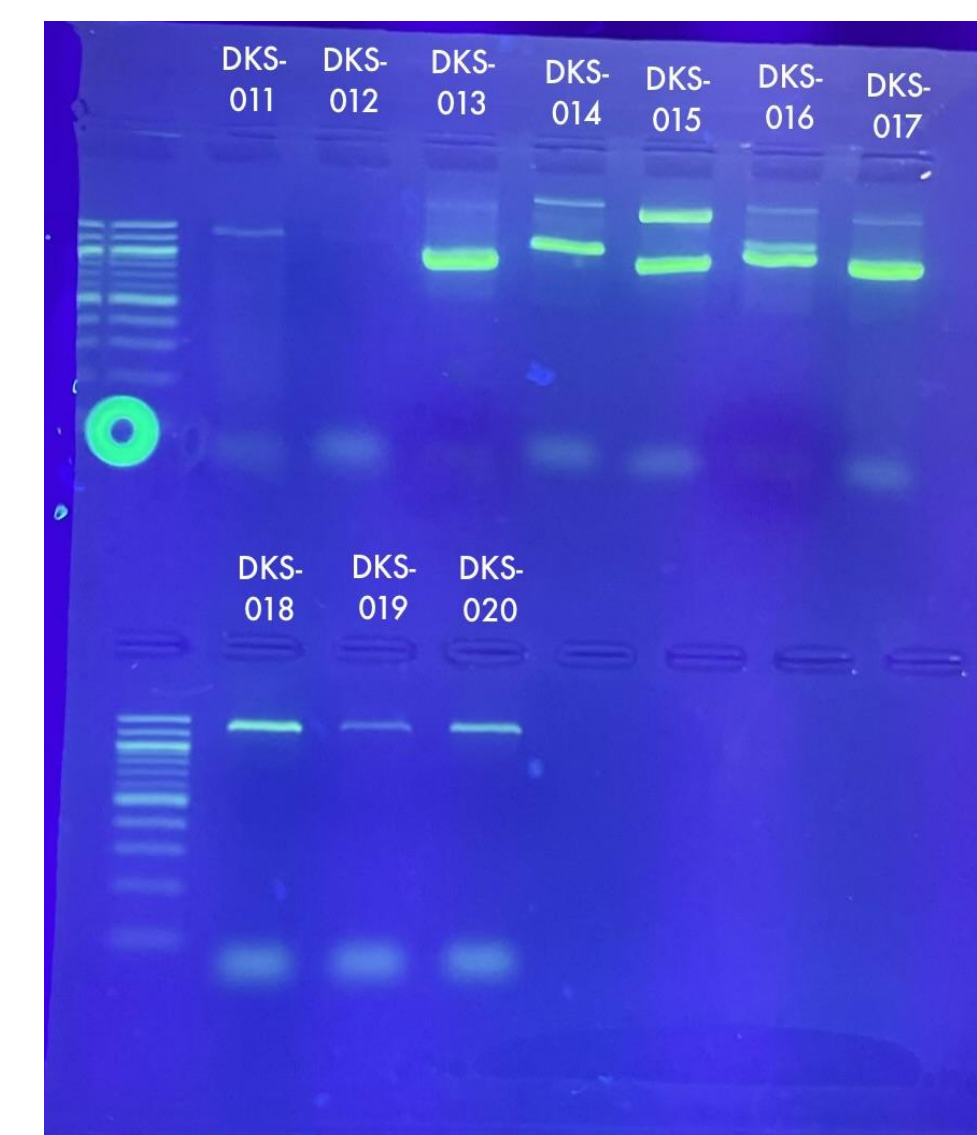
DKS-016 (Dorsal)
Brachypelma emilia



DKS-004 (Dorsal)
Brachypelma boehmei



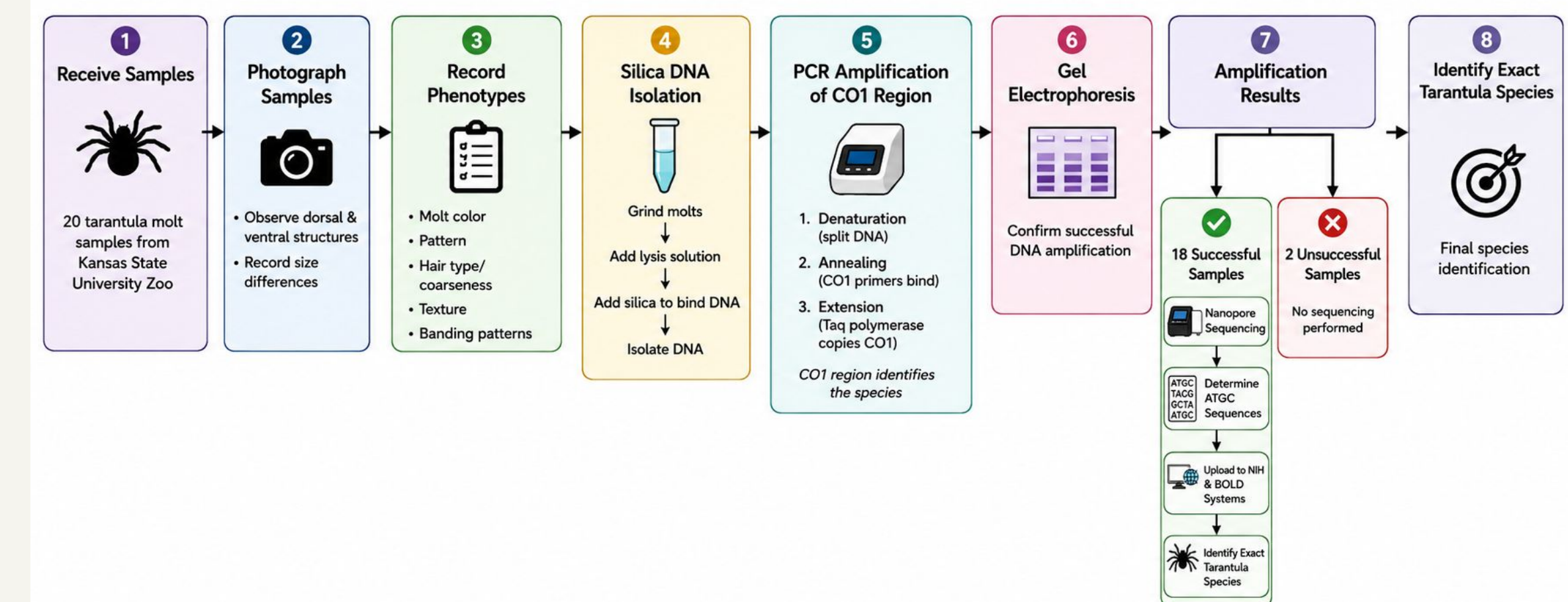
Gel A
shows successful
amplification all
samples 1-10.



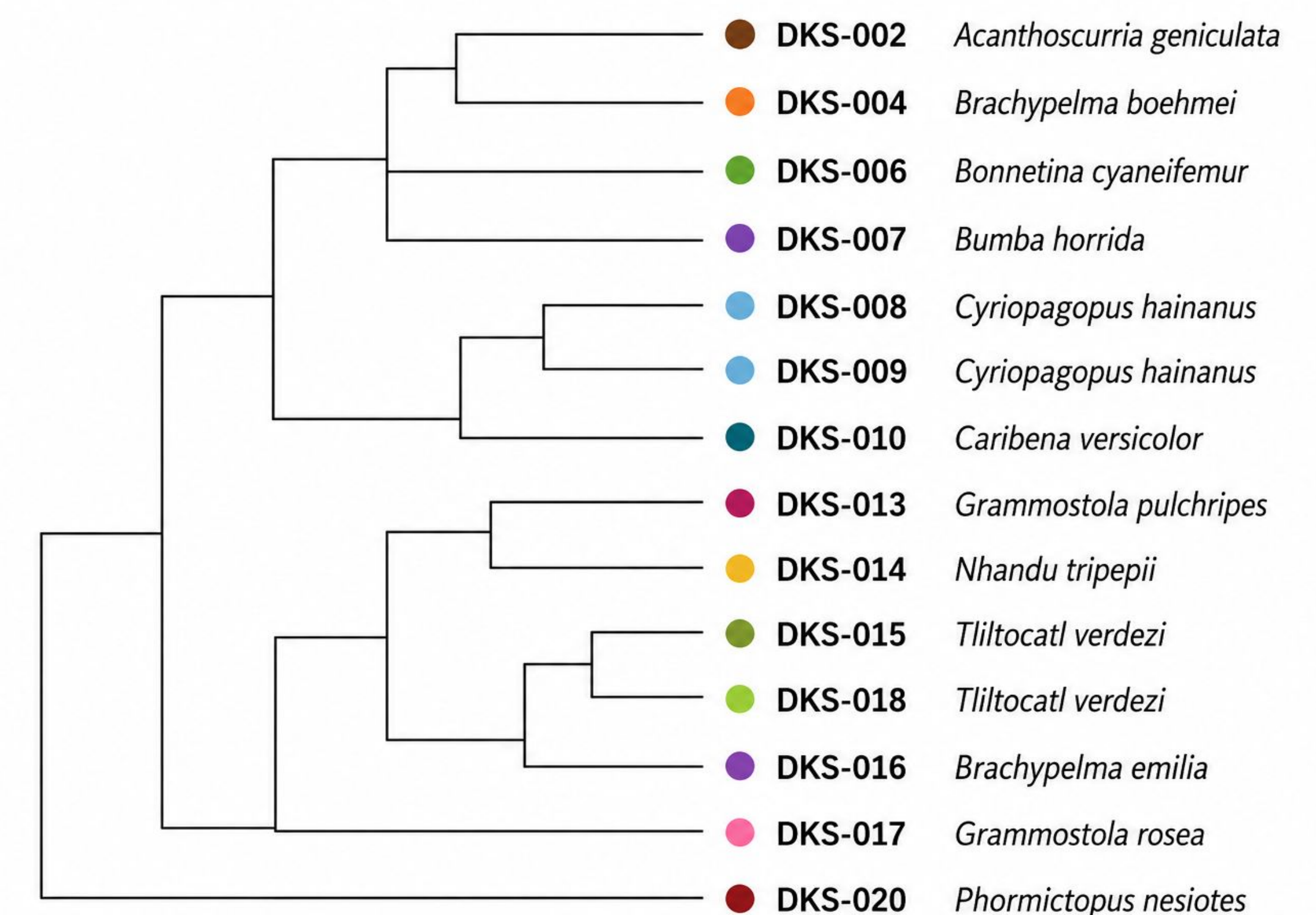
Gel B
shows successful
amplification of all
samples except for
sample 12.

Though the tarantulas had similar phenotypes (color and hair), after DNA sequencing the samples were found to have different genotypes, meaning they are different species.

Materials & Methods



Results



Acknowledgements

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