

Reevaluating the Status of the *Mazama* deer from Pearl Islands, Panama

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INTRODUCTION

Population of brocket deer from the Pearl Islands has been historically attributed to the species *Mazama gouazoubira*, a species that is present in the central and south-east region of South America. *M. temama* represent the closest mainland species which is distributed from south east Mexico to the western slopes of the Andes in Colombia. Despite their geographic distribution, morphological evidence do not support a closest relationship between the Pearl Islands brocket deer and *M. temama*, instead it suggest a closer relationship with *M. gouazoubira*. An extant population of *Mazama* is known to be present only in San Jose Island.

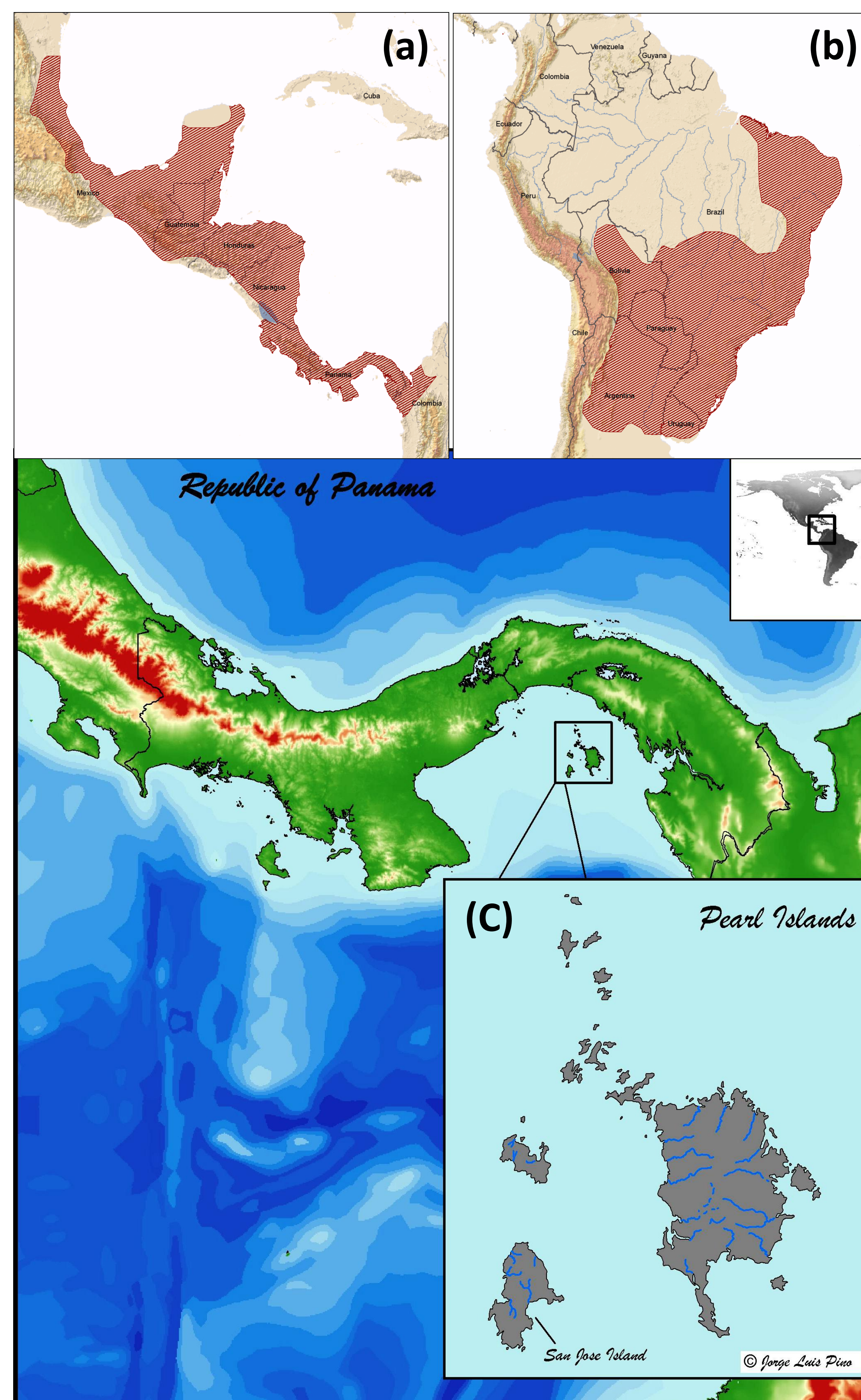
The disjunct distribution of the Pearl Islands population offers an good scenario for testing phylogenetic hypotheses.



Left, red brocket deer *M. temama*; right, gray brocket deer *M. gouazoubira*. Pearl Island deer have been reported to be smaller than their mainland relatives (Images courtesy of ARKIVE.org).

QUESTIONS

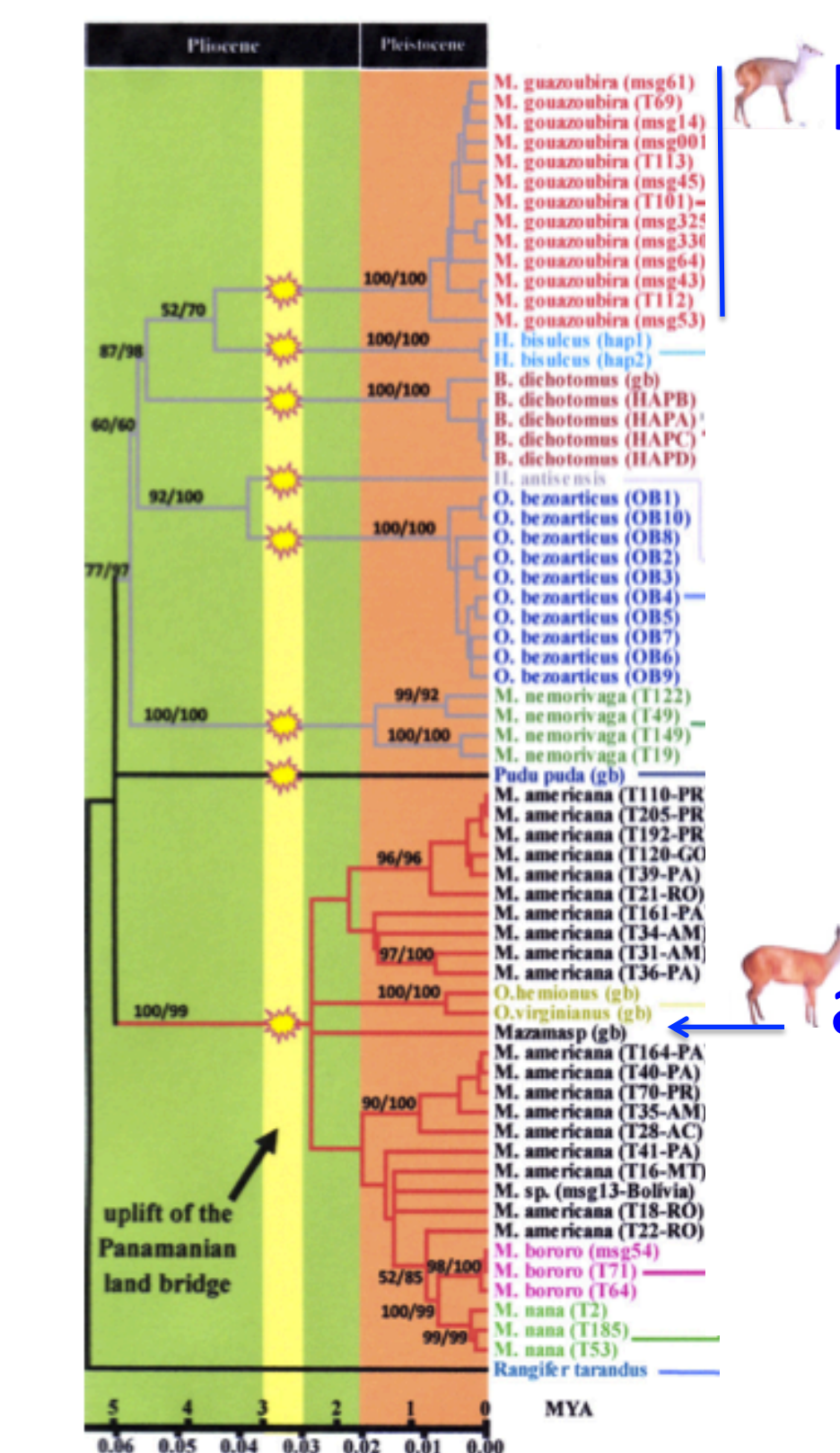
- 1- What are the phylogenetic relationships between the Pearl Island brocket deer and the mainland populations?
- 2- When did the Pearl Island brocket deer diverge from their closest relative?



Distribution of (a) *M. temama* and (b) *M. gouazoubira* (IUCN); (c) geographic location of Pearl Islands and San Jose Island.

APPROACH

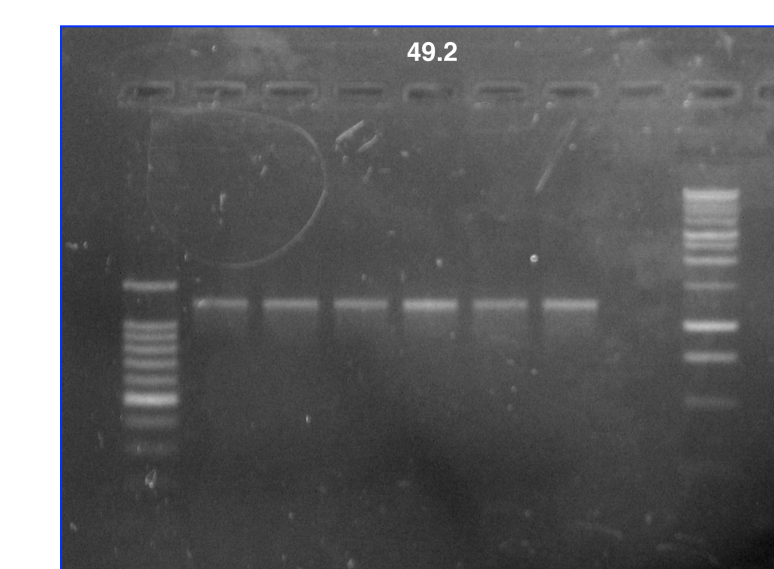
We will use molecular data to evaluate the relationship between the island and mainland populations. We are targeting the mitochondrial cytochrome B, the control region, and the nuclear beta fibrinogen intron 7. Divergence time will be explored under a coalescent approach.



Phylogenetic relationships among *Mazama* species. a-*M. temama* and b-*M. gouazoubira*. Species are color coded. (Duarte et al. 2008. The surprising evolutionary history of South American deer).

CURRENT STATUS

In the lab, we have successfully amplified mitochondrial cytochrome B gene and the Control region of white tail deer by using universal primers.



Agarose gel showing amplified fragments of cytochrome B gene from white tailed deer (*Odocoileus virginianus*), outgroup taxa.

CONTACT INFORMATION

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