



Pathology Biology Section – 2006

G38 Co-Amplification of Cytochrome B and D-loop mtDNA Fragments for More Reliable Species Identifications

Dongya Yang, PhD, Department of Archaeology, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6, Canada; and Speller Camilla, MA, Department of Archaeology, Simon Fraser University, 8888 University Drive, Burnaby, BC V5A 1S6, Canada*

After attending this presentation, attendees will learn a new method for the analysis of degraded DNA samples in wildlife forensics, food inspection, conservation biology and ancient faunal remains analysis.

This presentation will impact the forensic community and/or humanity by demonstrating the co-amplification method, which is a simple, cost-efficient and genomic DNA-saving approach for species identifications from minute and degraded DNA samples.

This study proposed the simultaneous co-amplification of both cytochrome b and D-loop fragments for more reliable animal species identifications. This method uses a conserved cytochrome b sequence to obtain a less ambiguous species indication and a hyper-variable D-loop DNA sequence to obtain other specific information concerning species, population, and even individual specificities. Tests on ancient whale and salmon DNA samples have demonstrated that the co-amplification is a simple, cost-efficient and genomic DNA-saving approach for species identifica-

tions from minute and degraded DNA samples. It is suitable for the analysis of degraded DNA samples in wildlife forensics, food inspection, conservation biology and ancient faunal remains analysis.

Species Identification, PCR Amplification, mtDNA