

Forensic Science in Support of Conservation Efforts — Genetic Approaches (Global Trends) —

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ABSTRACT: Wildlife forensic science is a relatively recent development to meet the increasing need of the criminal justice system where there are investigations in alleged transgressions of either international or national legislation. This application of science draws on conservation genetics and forensic geneticists from mainstream forensic science. This review is a broad overview of the history of forensic wildlife science and some of the recent developments in forensic wildlife genetics with the application of DNA developments to nonhuman samples encountered in a forensic science investigation. The review will move from methods to look at the entire genome, when there is no previous knowledge of the species studied, through methods of species identification, using DNA to determine a possible geographic origin, through to assigning samples to a particular individual or a close genetic relative of this individual. The transfer of research methods into the criminal justice system for the investigation of wildlife crimes has been largely successful as is illustrated in the review. The review concludes with comments on the need for standardization and regulation in wildlife forensic science.

KEY WORDS: Geographical profiling, mitochondrial DNA, nuclear DNA profiling, species testing, whole genome testing, wildlife crime.
