



E25 A Different Kind of DNA Casework: When It Barks or Purrs

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After attending this presentation, attendees will understand the application of routine forensic genetic tools to casework involving domesticated animals, specifically dogs and cats. Cases involving trace companion animal biological evidence (for example, a shed hair or piece of feces) will be presented to provide an overview of breadth of casework completed by the Veterinary Genetics Laboratory-Forensic unit (VGL-Forensics) at the University of California at Davis (American Society of Crime Laboratory Directors/Laboratory Accreditation Board (ASCLD/LAB) -International accredited since 2010).

This presentation will impact the forensic science community by increasing awareness of the field of wildlife forensics. This presentation is intended to be part of a set of presentations from forensic science practitioners in the wildlife forensics community. Wildlife species have often been the basis for research presented at the American Academy of Forensic Sciences (AAFS); however, the work of wildlife forensic laboratories has, in the past, been underrepresented in the AAFS scientific sessions. By presenting multiple talks, highlighting the breadth of the work that is completed in this community, a valuable resource will be provided to the forensic science community at large.

While committing a sexual assault in a residential backyard, Rufus Sito Nanez III rolled in some canine feces, which later helped link him back to the victim's home, resulting in his conviction. VGL-Forensics played a key role in the trial and conviction of this serial rapist. As the only crime laboratory in the country accredited for analysis of DNA from domestic animals, VGL-Forensics has been serving federal, state, and local law enforcement agencies, as well as the general public, for more than a decade. The laboratory receives a wide variety of cases from all over the world, with sample types and species unlike those encountered by its human counterparts. Cases range from human-on-human crimes in which dog or cat biological evidence links a suspect to the crime, to large-scale dog fighting, species identification, and animal cruelty cases. Recent case examples will be presented in addition to other high-profile and cold cases.

Because domesticated animals share such a close relationship with humans, the work of the VGL-Forensics routinely intersects with the work of human crime labs and is used as an investigative tool in traditionally "human" law enforcement cases, such as homicide or sexual assault; however, dogs and cats are not "human," which means that working with these species includes some of the same challenges as working with wildlife species in wildlife crime laboratories. In order to meet the demands of courts that are accustomed to hearing human DNA evidence, VGL-Forensics has modelled our laboratory system after that of a "human" DNA crime lab, dealing mainly in match comparison and mitochondrial haplotyping methods. Details of these methods as applied to dogs will be presented as well.

Wildlife Forensics, Canine DNA, Non-Human Forensics