

Examination, Analysis, and Application of Hair in Forensic Science — Animal Hair

REFERENCE: Tridico S: Examination, analysis, and application of hair in forensic science — Animal hair; *Forensic Sci Rev* 17:17–28; 2005.

ABSTRACT: This article reviews the examination of animal hairs and their role in the forensic arena. The forensic examination of animal hair is a well-established discipline and has been so for two centuries. Examination is largely based on microscopy, which may enable the hair analyst to identify a hair as animal in origin, to characterize the hair to a particular species, and to conduct comparative examinations. Education and training underpin the ability of the hair analyst with the specialized knowledge and expertise required to proficiently conduct these examinations and give appropriate weight to the findings. This article will also discuss the effect two relative “newcomers” have exerted on the forensic examination of animal hair — (a) the transfer and persistence of animal hairs and (b) DNA profiling. Opinions regarding the transfer and persistence of animal hairs have been based on the data obtained from studies conducted on textile fibers because of the lack of data available for animal hairs. Preliminary studies conducted specifically on the transfer and persistence of animal hairs has shown that the results are comparable to the studies conducted on textile fibers. The progress in DNA profiling has seen this method being used with increasing frequency in the examination of animal hair. The results provide a degree of individualization that has not been possible with comparative microscopy. In conclusion, this review article will clearly demonstrate the role, value, and eclectic application of animal hair examination to forensic science.

KEY WORDS: Animal, cat, dog, DNA, hair, microscopy, transfer.
