



A201 The Microscopical Identification of Raccoon Dog (*Nyctereutes procyonoides*) Hair

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After attending this presentation, attendees will understand some principles of animal hair microscopy, including the necessary techniques and terminology, and how it pertains to the identification of raccoon dog (*Nyctereutes procyonoides*) hair.

This presentation will impact the forensic science community by discussing how identification of raccoon dog hair has become increasingly relevant to the forensic science community as its use in the fur trade, mostly as trim on garments, has grown in recent years.

Native to eastern Asia, the raccoon dog was introduced to multiple areas of the former Soviet Union and Europe in the middle part of the last century. The raccoon dog, a basal canid, is commonly bred in captivity for its fur and goes by many common names including tanuki, Chinese raccoon, Asiatic raccoon, and Finnish raccoon.

Animal hair microscopy is an underutilized area of forensic science that requires only common laboratory reagents and basic microscopical instrumentation (generally, a stereomicroscope and a compound microscope). While the equipment may be commonplace, the required techniques are specialized and some, including scale casts and longitudinal cross-sections, are unique to animal hair microscopy. A brief description of these and other techniques, including transverse cross-sections, will be discussed.

The identification of raccoon dog hair has become increasingly relevant to the forensic science community as its use in the fur trade, mostly as trim on garments, has grown in recent years. As such, raccoon dog hair is likely to be encountered in forensic casework as trace evidence. Identification of raccoon dog hair utilizes the amalgamation of macroscopic observations, including length and banding patterns, and a complete microscopical characterization, including scale patterns, cross-sectional shape, and medullary form and structure. The ability of a forensic trace examiner to correctly identify its origin can provide investigative leads or aid in a comparative animal hair analysis.

In addition, the fur trade's use of raccoon dog hair in garments has its own legal implications. It has been demonstrated that raccoon dog hair is often incorrectly labeled as either faux fur or as the fur of other animals. This constitutes false advertising and is in violation of federal law as regulated by the Federal Trade Commission (FTC). A brief review of the relevant federal legislation will be addressed.

Raccoon Dog, Hair, Microscopy