EXPERIENCES FROM MITOCHONDRIAL DNA SEQUENCING OF SHED HAIR FOUND IN LAKES

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Many forensic evidence materials found at a scene of a crime contain minute amounts of DNA. In many cases are the materials also degraded due to age and storage in unfavorable conditions for long periods of time. Such evidence materials are teeth, bones, and shed hairs. We have analyzed evidence materials in a forensic case where the evidence consisted of several shed hairs found in two different lakes in mid Sweden. The hairs were found after an extensive search with dogs and divers of several lakes in the area where a young female had disappeared several years earlier. Six long separate hairs were found in the lake Krampen and two short hairs were found in the lake Ärlången. The hairs were washed, followed by extraction of DNA and PCR amplification for further analysis. Both hyper variable regions, the HVI and HVII of the mitochondrial D-loop were sequenced using DYE Terminator™ chemistry and an ABI 377 instrument. DNA sequences were compared with biological material from the disappeared woman as well as from her mother. We will discuss protocols, contamination prevention, success rates, and the results of the analysis as well as our experiences working with these highly degraded samples. These materials found at the bottom of a lake have most likely been there for several years and our results show that also such materials can be analyzed with high success rates.